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*ONESIMUS OF COLOSSAE.**

There are few things that illustrate more fully the genius of Christianity than the way in which it dealt with slavery in the Roman Empire. The principle which it applied as a solvent to this great question appears in its most developed form in the writings of St. Paul; and its application to a particular case is most charmingly set forth in his private letter to Philemon. In that shortest of all St. Paul's extant epistles, he incidentally gives a suggestive outline of a young slave's history, which it will be interesting to fill up for the sake of the light which it casts on the spirit of Christianity and its spread in the world; for the principle involved has many and varied applications. Not to this particular form of social tyranny alone does the Apostle apply it, but he brings within its sweep a series of similar abuses such as race antipathy, religious prerogative, intellectual arrogance and the degradation of women,† and shows that the acceptance of the Gospel of Christ causes individuals and communities as far to transcend these inglorious inventions as the man of mature years and discretion transcends childish things. The efficiency of this remedy has been largely verified by history, and the case of Onesimus is one of that typical kind which enter as the most important factors into the process of verification.

* Colossians iv. 9; Philemon 10-21. † Galatians iii. 28; Colossians iii. 11.

To appreciate the value of the cure we must try to apprehend the nature and extent of the disease. The multiplication of slaves which had been going on for centuries had now reached such a height that in the wealthiest families they could be reckoned not by hundreds but by thousands. The traffic in men, women, and children who were bought and sold like cattle, produced its natural effects on slave and slave-dealer alike. The cup of this iniquitous system was fast filling up and tokens of a bitter nemesis were not awanting. These slaves might be described, according to the philosophical slang of the period, as 'live chattels' or 'instruments with a voice,' but they had an awkward way of showing sometimes that after all they were human beings, capable of love and hatred, of jealousy and desperate revenge. Two or three years before the date of Paul's letter to Philemon and probably while Paul himself was in Rome, Pedanius Secundus, a Senator, was killed in his bed by one of his own slaves. Such an event had not occurred within living memory and it created a profound sensation, awakening in the breast of all slaveholding families serious questions about the possibilities of the future. Whose turn would it be next ? and what could be done in the meantime by way of self-protection ?

Now there existed an old and ruthless law in Rome which had long become obsolete, which decreed that when a slave murdered his master, then his whole "family" of slaves should be put to death. This Silanian law, as it was called, proceeded on the assumption that no slave could murder his master without the connivance of all the rest. But in the case in question there was no doubt whatever as to who had done the deed and why he did it ; and one would think that the right course for justice to pursue was perfectly clear. But when the public mind is swayed by interest and fear the straight course is seldom followed. The matter was debated in the Senate and, though it was perfectly well known that the murderer was a rival with his master for the love of a fellow-slave and that in a fit of jealousy, all unaided and alone, he did the bloody deed, yet it was decreed by the senate that Pedanius's whole family of slaves, amounting to about four hundred in all, should be slain, the plea to excuse the devilish deed being the tyrant's plea of necessity. "The rich and the noble" said one of the chief speakers on the occasion, "are but few among the many. Their only safety lay in the terror of their inferiors, or at any rate in the certainty that if they perished, they would never perish unavenged." At such a monstrous order even the Roman populace, by no means sensitive on such matters,

was horrified and determined to attempt a rescue. But the emperor sided with the Senate and the swords of the soldiers did the rest. Old and young, men and women and children, were barbarously led forth to die.

This incident illustrates not only the cruelty of the law and the law's administration but it shows the terrible danger arising out of slavery. Already the universal distrust had found expression in the proverb "As many slaves so many enemies." "We may be quite sure," says Farrar, "that at this very period grim stories flew from lip to lip about the possible recurrence of massacre and rapine, such as those which had occurred in the Servile War under a Eunus in Sicily, or had long afterwards been inflicted by a Spartacus in Lucania and Bruttium."* But slavery took a more subtle and awful vengeance on Roman society than even this. In consequence of the vast number of slaves, work came to be regarded as a mean and degrading because a servile occupation. Luxury and idleness—the fruitful parents of so many other evils, the sure precursors of weakness and decay—abounded everywhere; while sensuality, in its vilest forms, was fostered by the tremendous power which placed the slave at the mercy of the master's worst passions. Society was rotten to the core and the vices of the master were hardly outdone by those of the slave. The relation of Cicero to his slaves Tiro and Sositheus, which has been compared to that of Abraham to his steward Eliezer of Damascus, is a delightful exception to the general rule; but on the whole slaves and slave holders were as bad as bad could be.

Onesimus represented the least respectable type of the least respectable class in the social scale. He was a slave and a despised Phrygian to boot. And he had done his best to verify the public estimate both of his class and nation. In the eyes of the Romans, a Phrygian held very much the same place as a Nazarene did in the eyes of the men of Judea, and Onesimus behaved like a Phrygian of the regulation type. Philosophy said that a slave is a 'live chattel,' 'an instrument with a voice,' and he had acted just as an implement, invested with life and intelligence, might be expected to act. The law said that a slave had no rights and he carried the declaration of the law to its logical conclusion by denying that he had any duties, by renouncing all responsibilities. He seems to have done just what the representative slave in the Roman comedy threatens to do, when he gets into trouble: he had "packed up some goods and taken to his heels." He stole something from

Philemon (v. 18) and fled. From Colossae he found his way through Ephesus across the Ægean and the Adriatic into that cesspool of all the misery and vice of the period, the city of Rome, where he no doubt hoped to be beyond the reach of his owner and to spend with congenial companions in jovial and riotous living his stolen portion of goods or money. In that city as in London, there were multitudes of lodging houses where the swarming myriads of slaves and paupers and escaped criminals lived a precarious and miserable life. There, among the waifs and strays, he seems somehow to have heard the name of the great Apostle of the Gentiles with which, as the slave of one of Paul's converts, he was probably not unfamiliar. Though Paul was a prisoner in Rome at the time, though his right hand was chained night and day to the left hand of a Roman soldier he was yet allowed to receive into his own hired house willing listeners to his preaching. And it has been well said that he never perhaps achieved more brilliant successes than with that chained hand.

Many circumstances may have combined to induce Onesimus to visit the prison house of St. Paul. Perhaps by this time he had spent all and begun to be in want and hungry ; perhaps he had come to himself and had some twinges of conscience ; or perhaps he may have been discovered in some of the slums by that Colossian evangelist Epaphras who happened to be in Rome at the time, and who may have taken some kindly interest in his fellow countryman, though a slave, both being strangers in a strange land. Anyhow the apostle and the slave met on the floor of that hired house, and humble as were the persons and mean the surroundings, seldom has there been a meeting of two men in the world's history that had issues so momentous and involved principles of such far-reaching importance. For this meeting not only issued in bringing a soul out of darkness into light; but it gave occasion to the writing of this short letter to Philemon which has always been regarded as a masterpiece of most exquisite Christian taste and most perfect literary skill, and which enunciates principles for the satisfactory and final settlement of one of the most difficult social problems that Church or State has ever been called on to solve.

It is impossible to say what knowledge of Christianity Onesimus had before this meeting with St. Paul. He may have sometimes gone in attendance on his master to Ephesus and may along with him have seen and heard Paul in the School of Tyrannus or in some

private gathering of converts. We know that Philemon was a good man. He was a fellow labourer with the apostle, one whose love and faith were conspicuous in the good deeds that he was never weary of performing towards his brethren. His wife Apphia and their son Archippus, who in some spiritual campaign had been the apostle's 'fellow-soldier' were both like minded with himself. Like Aquila and Priscilla at Rome, like Nymphas at Laodicea, they had a church in their house, throwing it open for purposes of Christian worship. Still we know so little of the mutual relations that may have subsisted even between a Christian master and his slaves that from these facts we cannot affirm much about Onesimus's knowledge. It is just possible of course that Onesimus, especially if his employment were that of a domestic, a reader or a clerk, may have acquired some knowledge of Christian ways and Christian beliefs; but it is hardly conceivable that he could have had any idea of how slavery as an institution would be affected by Christianity or how individual converts from amongst the slave classes would be affected as to their external circumstances; and it is certain that whatever he may have known about Christianity, it could have been only an outside sort of knowledge, for it had not begun to elevate his life or to sanctify his thoughts. But the touch of kindness and the words of love form a language that can be understood among every kindred and in every clime; and as the apostle, with all his large-hearted tenderness, opened up to him the possibilities of a redemption that proclaimed liberty to Satan's captives and freedom to sin's slaves, the slave-heart began to melt and the child-spirit to enter. Onesimus began to understand that God is no respecter of persons, that to the poor the gospel is preached, that in Christ there is neither bond or free. Onesimus began to feel that, slave as he was, slave by name and slave by nature, slave in the eye of his country and slave in the eye of his God—even for him there was found a place in that tender heart which so loved the world as to give up the only begotten son; even over him in his waywardness the eye of more than a father's pity watched; even to him Jesus with open arms seemed to say from His throne in glory "come to me, dishonest, vagabond, homeless as you are, I will never cast you out," "Come to me, pilfering fugitive, weary worldling as you are, I will give you rest." And do we not hear the still small voice of the echo in his heart coming to us to-day on the wings of the centuries saying:—

"I came to Jesus as I was, weary and worn and sad
I found in Him a resting place and He has made me glad."

Let it not be supposed that it was merely a sentimental change which passed over Onesimus, a mere rush of pleasing emotion. The idea of conversion taught in Scripture is something far more profound and practical than that. Conversion means such a deep moral change as will give a guarantee of higher aims, a better disposition and nobler conduct on the part of the convert. It is a change in which God's invisible hand is at work giving both new motive and new regulative power to the believer. Accordingly the apostle, by one of those delicate touches in the picture of which he is such a master, shows how the hand of God comes into play. He holds the view that God is interested in the affairs of men, and that even when Onesimus was fleeing as a criminal from Colossae he was watched by God and was unconsciously fulfilling His purposes. God meant to bring good out of Onesimus's evil and to make even his crime a link in the chain of causes that brought about the change in his history and character. True, the apostle does not give a dissertation on providence here. He does not draw out the lesson even as clearly as Joseph did in Egypt, when he revealed himself to his brethren and added "now, therefore, be not grieved nor angry with yourselves that ye sold me hither *for God did send me before you to preserve life.*" Nevertheless he does make a very distinct reference to the reality of God's hand in the matter and means his correspondent to see it. "Perhaps," he says, offering the thought merely as a suggestion to the ready-sighted mind of Philemon, "perhaps he therefore departed for a season that thou shouldest receive him for ever." The hand of God was as really present guiding this wayward man as it guided me when I went on that memorable journey to Damascus. My plan was to stamp out Christ's cause there; God's was that I should build it up. It was not more unlikely when I left Jerusalem with those persecuting letters in my pocket that I should return a Christian, than it was when Onesimus left Colossae with stolen property on his person that he would return a new man. Yet so it was in both cases; and thus it is that day by day in this common life of ours God rules in the affairs of men and brings good out of evil, making even the evil doer often an unconscious minister of good.

But not only did God so over-rule the acts and ways of this man as that he should be brought to Paul, as if *he* were to work a charm on him or to effect a change of a lasting spiritual kind. Paul was only the instrument in the hand of the unseen worker, and could

of himself have done nothing like what required to be done. Hence he speaks of the change as a being 'begotten,' a being 'born again,' a change in which the servile spirit becomes a son's spirit; in which the love of the world is replaced by the love of the Father. He is no more a slave but a son, a free born heir of immortal blessedness. A real, inward, moral change has taken place in the heart of this slave; and just such a change as this, effected by the Spirit of God, must take place in the heart of every one who would forsake the bondage and tyranny of sin in order to taste the liberty of the children of the kingdom. It is an unseen work, carried on it may be at the back of your consciousness, whose process you may be unable to explain but whose outcome will not be the less palpable to yourself and others. This is the biblical correlative to the doctrine of the forgiveness of sin. Where forgiveness is granted, there is also this inward renovation as the first step and the sure commencement of a life of holiness. Let no man therefore lay to his soul the flattering unction that his sins are forgiven by God if still he willingly and knowingly repeat in practice the same sins as he imagines to be forgiven. On the contrary, the only visible token of forgiveness and the renovation which accompanies it, is the purer and higher life which is its proper out-come. Such a higher and purer life we are entitled to look for on the part of Onesimus. What signs of it are to be seen in the letter?

Now the first mark of his better nature is to be seen in the gratitude which he cherished towards the Apostle for the spiritual service which he had been the means under God of rendering to him. The slave spirit is not prone to gratitude. When it is conscious of having received a benefit, it is rather self-gratulation that is uppermost in its thoughts. It thinks of its good luck or nurses its pride; but has little of that humility and sense of dependence which is usually associated with genuine thankfulness. But it was not so with Onesimus. He was willing to stay with the Apostle and in return for his spiritual things to give him carnal things in the shape of personal attendance and manual labour; and it is easy to see how helpful the two might have been to each other and what splendid opportunities Onesimus might have had of justifying that slave-name* of his by serving the Apostle not in the spirit of a slave but in that of a child. To the benefit of such a service Paul

* Onesimus = Profitable. John Bunyan would probably have called him M. Profitable. Paul himself plays on the name. See Philemon, v. 11.

was by no means insensible. He had in fact intended to keep him for a time at least; but, though parting with him was like tearing out his own heart, so strong was the mutual affection that had sprung up between them, yet with that delicate, wise, conscientious unselfishness, of which he will remain a memorial and a model to all the generations after him, he would not use his friend's property without his express consent and approval. And so, though Philemon on his part would have been delighted had he known the circumstances to grant the use of his slave to his own father in the faith, yet Paul deliberately resolved to send him back to Colossae.

The willingness of Onesimus to go is the second mark in the change of his character. He does not shirk the shame and humiliation of going back to his master to acknowledge his fault and to ask forgiveness, he has now known the forgiveness of heaven and he will not bear on his head an unforgiven offence of man. He goes in an honest straightforward way to the person he had wronged, the last man on earth that in other circumstances he would have desired to see. He is prepared with all the fervour of a first love to make whatever compensation his person and services could furnish. So he set out for Colossae, not a sadder but a wiser man than when he left it. He left it with plenty of worldly wisdom, he now returns with some of that wisdom which our Heavenly Father gives without upbraiding us in the giving of it. Thus he went by the advice of the Apostle who had doubtless instilled into his convert's mind the lesson to owe no man anything but love. There is a dash of rising manliness in the step that Onesimus contemplated. It was as manly as it was godly for him to set out on this noble errand.

But how was the returning slave to meet his master and owner? His return fortified by statements of his own reformation however plausible, could not at once be reassuring to the mind of Philemon but might rather lead to a suspicion of hypocrisy. There are two provisions for making his way smoother. Tychicus, the Ephesian, as the bearer of letters from the Apostle to the Churches of Laodicea and Colossae* was just about to start from Rome for those places; he could take Onesimus with him and act the part of a friendly mediator between the penitent slave and the offended master. Further, the Apostle wrote this letter to Philemon and gave it to Onesimus that he might deliver it with his own hand, as

* Colossian iv. 7; Ephesians vi. 21.

a sort of passport to his master's favourable regard and consideration.

Still letter and friend and all, it was not an easy duty that Onesimus had to perform, for the law of the land permitted Philemon to visit such an offence with death, he might have thrown him into a fish pond to feed his lampreys or nailed him to a cross to feed the ravens and the kites; and however inconsistent such an action might have been with the Christian ideal, it would have certainly met with no remonstrance from public opinion. All these difficulties—and they were neither few nor small—the young Phrygian slave nobly faced and thus does he show how divine grace had transformed his heart and life.

If we turn to look at the matter from the other side and consider what place in the Apostolic Church should be assigned to a converted slave, the question at once assumes a broader social interest. It is worth while to notice here what the Apostle does *not* ask Philemon to do. He does not say "you must emancipate him;" he does not say "you must cease to be a slave-holder;" he does not say "unless you grant a release to every slave you hold, I will excommunicate you," nothing of the kind. He simply charges Philemon to take the runaway slave Onesimus into his confidence again, to receive him with all affection; to regard him no more as a slave but as a brother; to treat him with the same consideration, the same love which he entertains for the Apostle himself, to whom he owes everything. In fact he tells him to do very much more than to emancipate his slave, but this one thing he does not directly enjoin. Let the reader carefully compare this language with that of the same Apostle on the same subject elsewhere* and he will find that Paul declares that freeman and slave in the sight of God are absolutely equal, that they have duties towards each other, and that masters and slaves are both alike slaves of a heavenly master. "He has no word of reproach for the masters on the injustice of their position; he breathes no hint to the slaves of a social grievance."

Some have been fain to infer from such teaching as this that the Apostles sanctioned slavery,† but there is a great difference between sanctioning and tolerating. God gave Israel various institutions on account of the hardness of their hearts which he would not have given otherwise; and He has always many things to say to His

* 1 Corinthians vii. 21-24; Ephesians vi. 5-9; Colossians iii. 22; iv. 1.
† Mill on Liberty p. 28 *b*. People's Edition.

Church which, on account of weakness or short-sightedness or perversity, the Church cannot bear. Therefore He tolerates much for a time which He intends ultimately to sweep away. Recognizing this, the Apostles taught principles applicable not to one place or one time, but to all places and all times alike, for Christ sent them to preach the Gospel, not to be political reformers; and the principle which Paul teaches here and elsewhere is so far from sanctioning slavery that it goes much further morally than any mere legislative act of abolition could. Its effects would be gradual no doubt, but not on that account less real or abiding.

What is that principle? Simply this that, being born again, Onesimus was his master's brother. They both had one Lord, one faith, one baptism, and a common place side by side at the Lord's table. They were both alike members of that family where the ties are spiritual, not carnal, God Himself being the Father, Christ the Elder Brother, and heaven the final home.

It is the same kind of reasoning as we have in the Acts of the Apostles at the time when Gentiles were first received into the Church on equal terms with the Jews. There was great jealousy on the part of Jewish believers. But how were their jealousies rebuked? It was by that master-stroke in Peter's defence. "If then God gave unto them the like gift [*sc.* the Holy Spirit] as He did also unto us when we believed on the Lord Jesus Christ, who was I that I could withstand God?"* After this philosophers might teach if they liked, that slaves were not fit to be the companions of free men, that they were not better than the beasts which perish, that they were mere pieces of property, live chattels, instruments with a voice, and so on; yet Philemon would be constrained to admit that in God's sight they were far more; that He made no difference in giving to both equally the gift of His Holy Spirit. If Paul was not ashamed of Onesimus as a 'partner,' could Philemon refuse him as such; if Christ was not ashamed of him as one of His brethren, what was Philemon that he should withstand his Lord? Whatever they might be outside the Church, slave and free man were on an equal footing inside. Their bodies were alike temples of the Holy Spirit; and in this we have God's signature and seal to the truth that "in Christ there is neither bond nor free."

We may trust that Philemon did more than fulfil the letter of

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* Acts xi. 17. R. V.

the Apostle's instructions, that he received Onesimus as a brother and gave him his freedom. Tradition says of him that he afterwards was made a bishop, that he went as a missionary to Spain, and finally suffered martyrdom.

Be this as it may, it was by the operation of these principles exemplified in such cases as that of Onesimus, that Christianity made its mark on Society in the early days of the empire, fetching not a few of its heroes and heroines from that despised and down-trodden class. Who has not read the touching stories of slave girls like Blandina of Lyons or Felicitas of Carthage, how they won for themselves the crown of martyrdom and were celebrated in the festivals of the Church with honours denied to the most powerful and the noblest of mankind. To have preached a crusade against an institution like slavery would have revived all the horrors of a servile war, and would have been sure to lead to the defeat, if not the extinction of the Church. To have followed such a course would not only have led to failure but would have been utterly contrary to the genius of Christianity itself. To preach a human brotherhood based on a holy faith and a pure life and a common loyalty to Him who is the Truth—that was the way in which Christianity delighted to walk, influencing society according to the means and opportunities she had in the days of her subjection and persecution, influencing legislation when she attained to the throne of the Cæsars, but contenting herself with the use of moral weapons, and moral weapons only for the advancement of her own cause. And this has on the whole been the policy of the Church all down through the middle ages. Miserable as have been the Church's shortcomings and shameful as have been her failures, she has on the whole played her part faithfully and courageously as the enemy of the vile system. At length the public opinion of Christendom is both unanimous and in earnest on the subject. Much has been achieved within the present century and even within the present generation. It was when Wilberforce and the band of like-minded men that worked along with him awoke to the force of these principles that our Government was persuaded to abolish slavery throughout the British Dominions. It was from a like cause that Alexander II. of Russia set the serfs of his mighty Empire free and that the negroes in the United States of America now know the slave-driver no longer. May the time soon come when those who have gone to Central Africa in the footsteps of the great and good Livingstone shall see that refuge of

the nefarious traffic swept of its abominations, and when the downfall of slavery shall be celebrated throughout the world in a triumphant song whose key-note was struck in Paul's Epistle to Philemon.

GEORGE MILNE RAE.

THE BIG TREES OF CALIFORNIA.

I heard about the big trees of California when I was a small boy, and I used to wonder at the stories of people riding on horse-back through the fallen trunk of one of them. The wonder is not lessened when one gazes in reality at these giants of the forest. The trees are called by their Indian name of sequoias, and the region where they grow is due east from San Francisco, among the hills on the western slope of the Sierra Nevada, the eternal snows of which are plainly in sight. The elevation at which they grow is above 4000 feet, and they grow in the midst of thick forests of pine, with oaks and evergreens and creeping plants and undergrowth in great luxuriance. The hillsides are crossed in all directions by streams of the melted snow, and many creeks and torrents, which, in connection with the matchless climate of this part of the world, make a ramble among the woods more enjoyable and less fatiguing than anywhere else I know.

There is shooting and trout fishing in abundance to be enjoyed among these hills, and it is one of the few regions where the grizzly bear may still be encountered; but as the monster is cunning and quick of hearing, and there are no beaters to make hunting easy as in India, the favourite way of shooting him is to wait at night in a tree near where he goes to drink. The first and more difficult thing to do, however, is to find his trail, and if the tracks are fresh, and the hunters impatient and venturesome, he is followed up at once with dogs which bark at his heels and delay his progress till the hunters come up. The puma, otherwise called the American lion or the cougar, is common there, and although Captain Mayne Reid has described it as a fierce and dangerous beast, it is in truth as cowardly as the hyæna. But the large game which is most sought is the black-tailed deer, while small game of many kinds is almost unlimited. The tufted mountain quail is to be seen in every glade

of the forest, and has a beautiful blue-gray and speckled plumage The trees are full of gaily coloured birds, one of the commonest and most remarkable of which is a black and white woodpecker, which has the flight of a bulbul and occasionally catches an insect on the wing. Many trees are perforated all over the trunk with the holes made by this indefatigable bird in its search for food, and it treats the telegraph posts in the same unscrupulous manner, believing, from the singing of the wires, that they must be full of insects. Fortunately for all who like to see natural wonders best as God made them, that region of superb scenery and big trees is not yet accessible, even from the nearest point of railway, except by a journey by stage-coach of at least sixty miles, and the total cost of the trip from San Francisco or Sacramento City is about eighty dollars to each person. Consequently the class of people to whom a big tree means so many cubic feet of timber, and a hillside is a nasty place with no road, keep away from it.

The sequoias are found in four or five groves within the compass of three counties, Calaveras, Mariposa, and Tuolumne, and they are much more numerous than most people suppose. One grove contains ninety-three trees of immense size, and another thirteen hundred and eighty, and the giants among these have a diameter of thirty feet and upwards. Unfortunately vandals have left their marks all about, the small fry carving their miserable patronymics in every place of majesty, and the bigger folk hewing passages through two of the mighty trunks for carriages to pass under, and even cutting down one of the vastest trees that they may build a roof over the stump and dance and hold concerts and do other funny things upon it. They had also the unspeakable audacity to construct a bar-room, and a bowling alley eighty-one feet long upon the prostrate trunk; but visitors did not drink and play enough to keep up the cost, so the almighty dollar dissipated that piece of foolery.

Nobody has the slightest idea how high three hundred and twenty-five feet looks when it is at the top of a tree. The first sight of one of these enormous sequoias is almost stupefying. What it is and how came it there, are questions the beholder asks himself. All around are immense pines, eight and ten feet thick, which would attract notice anywhere else; but they look like saplings when "Old Dominion" or "George Washington" stands up beside them. You take a position at the base of the tree and look up as far as the eye can see through the branches, and you realize

that you are looking higher than the top of the tallest cocoanut or tamarind. Birds are hopping about like grasshoppers, safe out of gunshot. Yet you see with amazement that the trunk up at that height is still six feet thick. Then you fix your eye on some mark and step backward, and there all above the mark are the dimensions of an ordinary huge tree with great boughs reaching toward the sky, till the topmost branches wave their leaves at a lofty eminence where no other green thing was ever near. Then you look down at the trunk. Thirty feet in diameter! As wide as a small house! Thick enough to fill up a street! Large enough for two omnibuses to stand behind! Ninety feet in circumference! Still that is not an extreme size. "Ohio" is 104 feet in circumference, and "New York" is 106 feet. The height of "General Garfield" is 340 feet, and "Starr King," the tallest of all, is 366 feet high.

The trees may next be examined as they lie down; for during the twenty centuries or so that they have been growing here the lightning has split them, and forest fires have burned great holes in their sides. There is one standing in "Big Tree Grove" with its trunk hollowed out to a height of ninety feet, and another in "South Grove," where twenty-four horsemen have stood together in a burned and blackened hole in its side. The great pines beside them are a thousand years old, but they have grown up from the seed since the fire was there and do not show the faintest trace of the flames. Since the fire, the force of storms and the weight of snow in winter have strained and twisted and snapped many of the burned sequoias, which have crashed down upon the earth, shivering six-foot pines into splinters and clearing a great gap in the forest. I paced along the round and smooth trunk of one of these fallen monarchs, mounting it with a ladder, and felt that a slip of the foot would give me as severe a fall as if I fell from branches of another tree. "The Father of the Forest," bigger than any tree now standing, lies along the ground for three hundred feet. It is 112 feet in circumference at the base, and at the other end, where the top has been broken off by falling against another tree and has mouldered into dust, the diameter is still eleven feet. At least that is what I make it: the guide-books say sixteen feet. I spent a long time inspecting this prodigy of the vegetable kingdom, and each time I went from one end to the other the walk was one hundred yards. Imagine a single log of that length, and eleven feet thick at the thin end! About the middle of the tree there is a piece, a mere piece, thirty yards long, which has been so well hollowed out

that I walked through it without stooping, and was sometimes barely able to touch the surface above my head. You get into this strange tunnel at a place where the side of the tree has been broken, and you get out of it through the hole left by a natural knot in the wood. This knot hole has not been widened or interfered with in any way, yet I climbed up a step-ladder inside of the level trunk, and crept through it without touching it with my shoulders on either side.

I stop here, not for want of more to say, but because it is time to stop. But to avoid a common mistake of descriptive writers, who are apt to write pages about something they have seen and yet not tell what it is like, I will add that a sequoia tree has the general appearance of a cedar and is perfect in its stately symmetry. The stem is very straight, and the thickest branches are about the middle of the tree, but they do not spread out much. The leaves are small, and like cedar leaves, and the cones are a little larger than a walnut.

Benjamin Aitken.

RAJASEKHARA.

Chapter V.

An attempt to marry Seeta—The byragi's fame—He practises medicine—Janardanaswami's feast—Rukmini loses her coin necklace.

One morning Rajasekhara, having transacted his business, was sitting in his office, when the astrologer came in and, taking a seat, drew a pair of spectacles from a plaited palm-leaf case, mounted them on his nose, passed the string back over his forehead and under his *juttu,* and loosening four or five little bits of palm leaf that were strung on the string of a book of that material, began to swing them back and fore gazing the while at Rajasekhara's face.

"Astrologergaru," said Rajasekhara, "what alliance is best for Seeta?"

"It would seem after careful reflection that the horoscope of Mantripragada Bapiraju's son is favourable in every particular," replied the astrologer.

Mantripragada Bapiraju had long been desirous of making Seeta his son's wife by some means or other and of benefiting by the relationship with Rajasekhara. Only recently, on the celebration

of the goddess Seeta's wedding in his household, not only had he made the astrologer the possessor of a fine web of *panchi** cloth but had also further excited his avarice by promising him a still handsomer present if he should arrange a match with Seeta.

"Bapiraju's son is a black fellow; and besides I hear that he is dull at learning. There is a report, too, that he is already walking in evil ways through the influence of bad associates. I'll not give Seeta to him. How is our Sankarayya's horoscope?"

"I've seen your nephew's horoscope," replied the astrologer, "and it is in every respect a capital one. But his natal star is in the third lunar mansion and our Seeta's is in the same one. The *sastra* contains a *sloka* to the effect that in the harmony of these mansions destruction lurks for maid and lover: '*If the 25th, 23rd, 7th, 3rd, 5th, 14th, 13th, 12th, 20th or 18th lunar mansions are the same for husband and wife, evil will result; but if, though in the same sign, the mansions or quarters differ, the union will be happy.*'"†

* A man's lower cloth.

† Hindu astrology groups the twelve signs of the Zodiac (*rasi*) into twenty-seven lunar asterisms (*nakchatra*), in which are supposed to reside the wives of the moon, with each of whom their serene lord spends one day in succession on his monthly circuit. The following exhibit shows the relation between the *rasi* and the *nakchatra*.

No.	Signs (*rasi*)	No.	Lunar Man. (*nakchatra.*)
1	Aries, *Mesarasi*	1 2 3	*Asvini.* *Bharani.* *Krutika.*
2	Taurus, *Vrushabharasi*	4 5	*Rohini.* *Mrugasira.*
3	Gemini, *Midhunarasi*	6 7	*Ardra.* *Punarvasu.*
4	Cancer, *Karkatakarasi*	8 9	*Pushya.* *Aslesha.*
5	Leo, *Simharasi*	10 11 12	*Maghu.* *Purva-phalguni.* *Uttara-phalguni.*
6	Virgo, *Kanyarasi*	13 14	*Hasta.* *Chitra.*
7	Libra, *Tularasi*	15 16	*Svati.* *Vishakha.*
8	Scorpio, *Vruschikarasi*	17 18	*Anuradha.* *Jyestha.*
9	Sagittarius, *Dhanassurasi*	19 20 21	*Mula.* *Purvashadha.* *Uttarashadha.*
10	Capricornus, or Alligator, *Makarasi* ...	22 23	*Sravana.* *Dhanista.*
11	Aquarius, or the Pot, *Kumbharasi* ...	24 25	*Satabhisha.* *Purvabhadra.*
12	Pisces, *Minarasi*	26 27	*Uttarabhadra.* *Revati.*

"The horoscope of Bapiraju's son is in every respect suitable—in it the regent of the trigon is in conjunction with the regent of the *kandra* and has no connection with the remaining third, sixth, twelfth, and eighth regents. He's a most lucky fellow too, according to the *sloka* which says, '*If the regents of the kandra and trigon be in conjunction, great good fortune will result, no matter what the position of the remaining planets be*'.* What difference does it make about form and other trifles? Who knows how sensible a man he may become in another four years' time? Listen to me and give the girl to him."

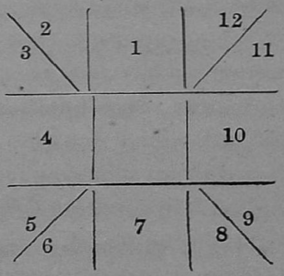
"No, I'll not give the child to Bapiraju's son. When my sister died she made me place my hand in hers and promise that I would give Seeta to her son. Damodarayya, too, is constantly pressing me to give Seeta to Sankarayya and keep him with me. Now, in case I give the child to another, he will taunt me ever after that I did so simply because my sister was dead. Besides, our Sankarayya is a sensible lad. He's attractive in form, and possessed of both education and modesty. I shall certainly give the child to him. The horoscope you must examine carefully once more."

Perceiving that it would be of no avail to oppose this determination, the astrologer gazed for a little while at the sky abstractedly and asked, "In what quarter of the third mansion is Seeta's birth?"

"The second quarter," replied Rajasekhara.

"Sankarayya's is the first quarter. True. It certainly is auspicious. According to the *sloka* which says '*If they who are born in the same mansion and in the same quarter thereof marry, their lives will be imperilled; but if the quarters differ the union will be auspicious, even when the mansion is the same*'—not only is there no harm, but it is positively lucky. Without fail give Seeta to him and have them married."

* The annexed diagram represents the astrological *chakra* or wheel in use among the Hindus for constructing horoscopes and determining lucky and unlucky periods: (1) is called the *lagna* or ascendant sign, and with the 4th, 7th, and 10th places from it, *kandra*; while the 5th and 9th places are called *trigona* or trigons.



"What time of the present year would be best for the wedding?"

"Since a *sloka* says that '*The months Maghu, Palguna, Visakha and Jestha are best for celebrating nuptials*' * the month *Maghu* may be regarded as a favourable one. In the dark fortnight, on the fifth Tuesday, the Sun rises in Aquarius. That is a capital time. The *sloka* '*When the Sun is in Aries, Gemini, Aquarius, Scorpio, or Capricornus, marriage alliances may be contracted; when in the other signs they are prohibited*', is my authority."

"Is your daughter somewhat recovered from her illness?"

"By your honour's favour she is much better. The *byragi* whom you recommended the other day is a most clever man. He drove the evil spirit from our house in a twinkling. All the witchdoctors had given our little one up believing it impossible to exorcise the demon that possessed her. For three days he gave her consecrated water to drink, and tied an amulet on her arm. From that very day the child has been easy."

"My sister Subbamma is quite unwell. There do not seem to be any good physicians in our village at all, and what to do I don't know."

"Why not get the byragi to prescribe for her?" asked Rakhavacharya; "he won't take money even though you offer it to him. I can't tell you to how many in the place he has given medicine out of pure charity—and cured cases of long standing too."

"If he is an expert, won't you bring him round to our house for a little while at noon to see Subbamma?" asked Rajasekhara; "she's been unwell for some four days past, and we're in great straits about the cooking."

"Most certainly I will. There's no uppishness about him. No matter who calls him, he'll come."

"They say," observed the astrologer, "that he possesses the art of making gold. It's simply astounding what great men there are among these Gosains!"

"It's reported that every day he melts a farthing's weight of copper and transmutes it into gold," put in Rakhavacharya; "now and then, too, he makes donations to brahmins. Unless he possesses the art, where does his money come from?"

"Rakhavacharyagaru, is the Swami's recital feast getting on all right?" interrupted Rajasekhara.

* *Maghu* corresponds to Feb.—Mar.; *Palguna*, to Mar.—April; *Visakha*, to May—June; and *Jestha* to June—July.

"While we are sure of your honour's patronage, what can be wanting for the feasts? Last year the *Samkranti* feast was celebrated wholly at your honour's expense. It seems only yesterday or the day before. To-morrow is actually the *Samkranti*!—The truth is, I came to ask a favour of your honour about this very matter; but as Subbammagaru was sick I thought it an unfavourable opportunity, and so did not mention it."

"Last year I gave a hundred and fifty rupees; but as some weddings are about to come off among our people, I can give only a hundred this year. You must make out in some way or other with that amount."

"As you think best. What does it matter? I'll do as you say."

"Rakhavaracharyagaru, bring the byragi to the house this very day without fail—and you have afterwards some other business to attend to, remember. The day is getting on, so go quickly. Astrologergaru, in case you are in doubt, you had better examine Sankarayya's horoscope once more; and should it be necessary for you to consult with any one, you're at liberty to show the horoscope to Lachayya Sastri as well."

"Just as you please; but I have no such doubt," replied the astrologer.

"If that's the case, go home now and come in later on."

Thus dismissed the company proceeded to their homes. By the time Rajasekhara had dined and washed his hands, Rakhavacharya brought along the byragi and introduced him to the house. Rajasekhara daily did him all sorts of good offices and devoutly courted his favour. Notwithstanding that Subbamma's illness disappeared immediately, he would not let the byragi go, but, out of a desire to acquire the art of making gold, lodged him in his own house and paid him every attention calculated to win his favour—supplying him with rice and milk at every opportunity, providing the fuel necessary for the byragi to keep himself warm, and devoting himself to him in general. Several days passed in this manner, and meanwhile the wedding feast of *Janardanaswami* approached. To celebrate this festival the people flocked in thousands from the surrounding villages, until every house in the town was packed.

On the twelfth day of the bright fortnight of the month Maghu all the accessory ceremonies of the Car Festival were in full progress. For four days they had been decorating the car, fastening round it cloths of various colours, and bright-hued papers. To the ends of bamboo poles they tied banners pictured with figures of

Hanamantha and Garuda, and fixed these also upon the car. Placing the trunks of plantain trees, bending beneath their bunches of green fruit, upon the upper part where the god sat, they tied to these garlands of mango leaves and various kinds of flowers. Between the stems of these plantain trees a pair of white, lacquered horses faced the street, tossing their heads and lifting their feet high in air, as though drawing the car. Some ten paces in front of the car, men, thrust into distorted images constructed of plaited bamboo splints covered over with cloth and representing Anjanaya and Garuda, leaped about and wagged their lacquered skulls so as to terrify the children and the country people who had come to see the sights. The priests mount the images * in a palanquin, descend the hill to the accompaniment of music, and causing Swami thrice to circumambulate the car, seat him therein. The people near pelt the god from below with plantains, while the priests and others seated upon the car ward off the blows with their hands and ring handbells at intervals with shouts of "Govinda! Govinda!" Immediately the people in hundreds seize upon the cables attached to the car and drag it along until the roofs of the houses and the street pials are like to fall. At that moment a musical procession stopped a short distance in front of the car and a female laid her hand to a drum and began to beat. No sooner was the roll of the drum heard than the principal personages seated with the god came elbowing their way through the crowd, sent to the rear the people in front, and themselves preceded the players and conducted the procession so that no interruption might occur to the music.

Rukmini, decked in all her jewels, and beautiful as a thorn-apple blossom, came that way and stopped beside a pial to watch the procession. Her skirt fell in heavy, undulating folds to her instep; over the left shoulder there came flowing down her back a *jalataru* mantle woven with sprigs of lace; the dark petticoat dotted with doves eyes that she wore added a rare grace to her beauty; the silver anklets and other ornaments upon her feet tinkled with melodious music; except the right hand all the rest of her person was hidden in her mantle, but her ripe-brinjal-hued, close-fitting silk bodice shone doubly brilliant in the soft sunshine from its partial concealment; and, to crown all, the orange blossoms in her hair

* The small images borne in procession as opposed to the *Mulavigrahas* or stationary ones that always remain in the temple.

diffused a delicate perfume on the breeze and rendered the Fragrance Bearer * worthy of his name. The women of this land as a rule consider it reprehensible to put on costly clothing and adorn themselves when their husbands are not at home ; but when they attend a married women's party on the occurrence of any happy event, or when they go out to witness the wedding festival of a god in the town, or the gatherings in honour of the village goddesses, they never fail to deck themselves out in rich clothes and costly jewels even though they have to be hired for the occasion. How, then, shall I describe her beauty at such a time? To satisfy the famine of one's eyes they must actually behold (for no mere description will suffice) the *naiveté* of her sweet face, at that moment overflowing with the very essence of beauty. The black bands encircling her large almond eyes endowed them with a rarer fascination ; and her crescent *bottu* of rouge shone lustrous on a forehead that rivalled the half moon in the archness of its smile.

When the car had passed Rukmini's line of view there went by palmers plastered thickly over with the twelve upright marks ; who, lighting lamps on iron stands, and winding their cloths tightly about their waists, waved in one hand whisks of peacock feathers and, with the other, dipped rolls of rags into oil, lighted them, and rubbed them skilfully over their whole body without regard to the heat, the while receiving and depositing in the base of their lamp-stands the coppers bestowed by the crowd. As soon as this uproar abated, Rukmini's mother and a number of other women started out together, passed the fruit stalls and coppersmiths' shops opened in booths by people from the country,—threw *cowries* and pulse to the shouting cripples who sat on cloths spread by the steps at the roadsides—avoided the cunning pilgrims who, Benares *kavadies* stuck in front and pictures in hand, impeded those who came and went and asserted that they could reveal saints and sinners, heaven and hell—and ascended the hill to pay their respects to the god. Here the crowd was so thick that sand sprinkled on their heads would not have fallen to the ground. Stalwart men who were desirous of offering fruit to the god forced their way out of this living mass and, being overwhelmed in the crush near the temple gates, concluded that while the pressure was so great it would be as much as they could do to escape with a whole skin, turned back when only half way in, and fell out behind not a little pleased at their release.

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* A title of *Vayavu*, the air god.

Others, more powerful than they, forced their way to the sanctuary itself, placed their fruit and money in the priest's hands, and worked out again. The priests themselves came out one after another and wrung out their cloths soaked with sweat, and after enjoying a little breathing space in the cool breeze entered the sanctuary again to swelter in the terrible heat. One of the priests who had thus come out caught sight of Manikyamba, and took the fruit from her hand and went in and offered it to the god; and then returned with some fruit and *tulasi* blossoms from the heap within and gave them to her, at the same time placing his *sathagopa* * on the head of each of her party. Manikyamba turned back and was about to pass the gate of the temple. Rukmini stood just behind holding on to the hem of her garment. Seeta was standing on one side and an elderly duenna on the other. At that moment some one thrust his hand on to Rukmini's neck from behind and with a jerk wrenched off her coin necklace. Ere Rukmini could turn and look about her both hand and necklace had disappeared. At her scream a dozen persons gathered about and endeavoured to catch the thief; but the rogue was in this very crowd and joined in the hunt himself. So Rukmini and her companions returned home at nightfall greatly distressed at the loss of the jewel.

J. Robert Hutchinson.

WHAT THEY SAW IN JAPAN. I.

The full bright autumn moon shone down on a small steamer that quickly ploughed its way through a calm, rippleless sea. In the saloon round the supper-table was a curiously assorted group, and on the narrow poop a solitary man walked up and down, deep in thought. What he thought about, or whether his thought bore fruit in action is not known. From the forecastle came the voices of the sailors singing snatchy songs in a nasal tone, mingled with the twanging of a *Bamisen* (banjo) played by one of the native passengers, and the regular throb of the screw. The people in the saloon seemed very happy, and their hearty laughter sounded pleasantly on the quiet air. That little man with the intellectual head and kindly grey eyes is full of merry anecdotes, all of which have a "Scotchie"

* A bell-shaped vessel graved with *Vishnu's* sandles. The act of placing it upon the head denotes the remission of sins.

turn about them, but are nevertheless much enjoyed by the others —a tall, slender, dark haired Canadian Missionary with eager outward look, the two burly engineers from the Tyne, and a Scotch lady.

As the captain and crew were Japanese, the foreign passengers had to be the guests of the engineers, two burly Yorkshiremen, who notwithstanding a long residence in the East had preserved their native accent. They were very anxious for the comfort of their guests, especially of the lady. "We'se not accostomed to faimailes," they would say apologetically, "we'se jost roff men which niver spakes with a faimaile; bot," with a generous wave of the hand, "ask the 'boy' fur enytheeng you wants, a leetle woine, or leemonade, or may be whusky; *yoroshii*!" This last word was addressed to the "boy," a sharp-faced native of thirty years, and from its frequent use seemed about the only Japanese they knew. Foreigners often make this word *yoroshii* (all right) express a whole volume of ideas. Servants in this land go through a special training under their various masters in understanding orders from few words, and these not seldom misapplied. For instance, *abunai* which means dangerous, is used for, "get out of the way," "take care," "this is breakable," and so on! It is one evidence of the brightness of the people that they so quickly adapt themselves to these new circumstances. To get anything like a grasp of the language is the earnest labour of years, and few except those who really require a knowledge care to take the trouble of studying.

The "boy" understood all the depths of meaning implied in *yoroshii* for he proceeded with alacrity to load the lady with benefits both edible and drinkable till she begged for a truce. This action distressed the kind hosts, and they thought their viands were not palatable to a "faimaile." At length a bright look succeeded the pathetic one on the face of the first engineer, "Ah, we knows faimailes loikes tay and to-ast! Boy!" addressing that all-important personage who had disappeared into the miniature pantry, "Tay and to-ast for the leddie, and coot a leetle 'am, yoroshii."

They seemed to think that a "faimaile" was much like a child or pet animal and was to be kept in good humour by means of her palate, for they gave Miss Monroe at parting next morning a large parcel of tarts and pies, because "faimailes loikes pêstry!"

In the early morning the steamer neared the shore which looked

bright and inviting in the clear sunlight. The flat, yellow, sandy beach faded into gently undulating land, which gradually rose till it lost itself in a range of billowy green hills. The solitary thinker of the night before was to proceed further south, but the story teller, Canadian, and Scotch lady were to leave the steamer to-day, and it is of their adventures and impressions, and the information they gathered, that we intend to tell.

The steamer anchored off Tsuchisaki, a collection of brown houses which straggled along and up the banks at the mouth of a wide river which was full of native junks. Two large, flat sailing boats soon put out from shore, and in about half an hour reached the steamer. A crowd of Japanese scrambled down the ladder, and dropped into the first boat, sending their bundles flying before them, bearing them on their backs, or hugging them in their arms at the peril of their necks. Especially was this the case with some old ladies who were as jealous of their possessions as any "big box, little box, band box, bundle" lady in the old country. Like cats, however, these worthy women landed safely on their feet. The boatmen added to the general confusion and hubbub by their shrieking and shouting ; and, as is not uncommon in Japan, every man ordering and no man obeying.

The space on the boat grew limited, and the passengers had to find seats on their baggage, and those near the oarsmen had to keep their heads bowed in an awkward attitude to be out of danger from the oars. A miserable little policeman, looking more like a conscious villain than an upholder of the law, got huddled down amongst some luggage, and let himself be knocked about in a painfully abject manner—perhaps he was sea-sick !

These Japanese policemen are often very amusing with their lordly air of authority, and eager execution of supposed duty. One day a foreigner was disturbed by a noisy altercation on his front verandah, and he went out to see what had happened. His "boy" and housemaid were excitedly remonstrating with a policeman who stood in a dignified attitude with stern expression, and his hand on the hilt of his sword. On seeing the foreigner he bowed politely and asked, "May I search in your grounds for a thief ?" (The honourifics which adorned this request in Japanese cannot be translated into our brusquer English). The permission was at once granted, and with long, stealthy strides, his sword drawn and flashing in the sunlight, the emissary of the State searched the "grounds" (an enclosure of a few yards with no tree able to hide

anything bigger than a crow!) for the thief, whom he did not find. The servants grinned triumphantly as he came back putting up his unused weapon; but he heeded them not, thanked the gentleman for his kind permission, and strutted away with an air of conscious virtue after duty accomplished!

In old feudal days there were no regular paid policemen, not, however, because the people were too good to need their services! The *daimyo* (noblemen) were little kings in their own provinces and managed all municipal affairs with a high hand. In Tokyo, or Yedo as it was then called, where many *daimyo* had "town houses," each *daimyo* in turn undertook to send out bands of armed retainers, for a month at a time, to patrol the streets day and night. They also supplied keepers for the large gates at the different entrances to the castle. This was a permanent office. At six o'clock in the evening these gates were closed, and any late wayfarer stood a poor chance of entering within the walls after sunset. Some of the large gateways still stand, but the great doors are removed and one may freely pass through at any hour of the night or day.

At the ends of the principal streets were small gates kept by men elected and supported by the people. There were eight hundred small gates in the city. When a disturbance arose in any quarter the alarm was given by the ringing of bells, all the gates were instantly shut, and escape rendered almost impossible. These gatekeepers were usually firemen; an office which would be no sinecure, as fires are of very frequent occurrence in Japanese towns. The lightly built wooden houses offer a welcome to the flames, and a fire begun in one house quickly spreads from street to street. Frequently whole districts are burnt down—only the scorched clay-built storehouses standing erect in the midst of charred desolation which would be melancholy were it not for the cheery faces of the houseless people who take the disaster very calmly with the aid of their friends. A certain number of fires must come, they think, and this happens to be their turn, so where's the use of complaining—a very comfortable philosophy, surely!

At the Restoration these gatekeepers and the *daimyo* retainers were swept away with other customs of the feudal system, and the present police services grew up to supply their place. The policemen are mostly drawn from the *samurai* class who were the soldiers in bygone days. They are not very well paid, and the government has lately offered a bonus to those who serve for ten years. The

fact that the policeman on the boat was knocked about rather ignominously, does not imply that his avocation is treated disrespectfully by the people. The Japanese are naturally very law abiding and policemen have little trouble in maintaining excellent order.

While the thoughts of our travellers were turned by the sight of this policeman in his European dress of dark blue faced with white, to thoughts of the feudal days only a few years in the past, the boat had been gradually making way. A strong breeze was blowing from the land, so the six boatmen had to row all the way, and it was fully an hour before the shore was reached. The boatmen sang a monotonous song that kept time to the dip of the oars. At a sand-bank several men got out and towed the boat along some distance. Some picturesque fishermen were casting nets into the sea for bait. In their left hand they held the cord, and in their right the net which they threw so as to describe a long curve in the air before it sank into the water; then they gently pulled the cord and drew the net ashore. The boat now entered the river where the current was very strong owing to the recent rains, and the oarsmen had much trouble in making any way. The ropes of the numerous junks moored to the land formed a network from bank to bank, so that the boat constantly got into difficulties and the passengers had to huddle down flat to save their heads Once or twice when the boatmen laid hold of a rope to aid them, the boat suddenly stopped, and they were rolled over on their backs with their feet in the air, to the amusement of all beholders not crushed in their unexpected descent!

The people in the junks crowded to the port-holes of their little deck houses to gaze on the rare sight of foreigners. A junk is not unlike the Noah's arks of one's childhood—a small peaked-roof hut placed in the centre of a boat. Impudent native dogs (who ever saw a sailing ship without her guardian dog?) looked superciliously from the bows and sometimes condescended to bark; whether in derision or welcome no one could tell, for a dog, unless he is a personal acquaintance, is as difficult to understand in his moods as a Chinaman, who expresses all the emotions in his face while betraying none. Little children, many of whom had never set foot on land, showed funny little faces ignorant of soap and clapped their hands in glee. Like other thrifty housekeepers the junk-dwellers had taken advantage of the bright day to have a grand washing, and their junks were festooned with garments of various sizes and problematical colours.

Near to a little landing some of the passengers went ashore on the backs of the boatmen. A Japanese who stood on the bank was a "great swell," and like that species everywhere held himself aloof from the vulgar throng. His attire was open to criticism although he thought it irreproachable. Here another point of resemblance between him and his brothers of other lands! He wore very tight-fitting white pants of a make not usually worn in public, open vest displaying a white shirt of a greyish hue, green tie, "swallow tail" coat, broad collar, high heeled boots, and silk hat, not fresh from Christy's, cocked on the side of his head. Under the coat tail he kept his left hand, like the ideal paterfamilias, in his right he carried an elderly inflated umbrella, and from his mouth hung a white pocket handkerchief. This last detail of the toilet is difficult to explain! His contempt for his fellow countrymen in native dress was ludicrous, especially as they passed by quite unconcerned.

The boat stopped at a small wharf near the heart of the town and all the passengers hurried on shore and were beset by *jinrikisha* men who clamoured for fares, and asked more than they expected to get unless the people were fools. If you give the sum asked either for articles bought in a shop, or for a *jinrikisha,* and do not engage in the time-honoured custom of bargaining, you are considered very simple, not to say despicable, by the man who has overreached you. Fortunately, this foolish custom is dying out in the principal shops in the cities and larger towns. The people find if they are to hold their own in the competition with other nations they must take account of time and not fritter it away. In former days when the feudal system ruled the land all were provided for by their chief, and it did not signify how long they took to conclude bargains, or execute orders. But now each man must work for himself; and every year, as more knowledge is gained of foreign commerce, the struggle becomes more eager and earnest, and he needs to shake off his old lethargy and fight briskly if he is not to be left far behind in the race for life.

Meanwhile the travellers are gradually supplied with *jinrikisha* and disperse in all directions some to their homes in the town, and others, like our friends, to continue their journey inland. Their way ran at first through streets and into the town of Kubota, a neat, clean looking place with a few foreign buildings, one of them the hospital. The Japanese working classes seem to have much the same prejudice as ours in Britain to hospitals, and would rather

suffer in their own poor homes, than go where they can have good medical advice and comfortable quarters. When a Japanese is ill he likes to get down on the floor on a quilt, cover head and body under another heavy quilt, and shut out light and ventilation. His head only comes out of its covering to receive the visits and gifts of his numerous friends who have come to condole with him, and discuss his symptoms. Then the doctor pays a professional visit, and treats the patient, according to his complaint, either by cauterization, acupuncture, or nauseous doses ; and the friends sit around and groan in sympathy. Naturally, therefore, the Japanese invalid objects to a bedstead, cheerful light, and fresh air, and especially to the quiet regularity of an hospital.

The shops in Kubota, as in all Japanese towns, were open to the street, and presented the appearance of an immense bazaar. Many of the trades too were carried on in full view of the passer by. Here a blacksmith squats on the ground, his sooty face lit up by the glare of the fire which he blows into brightness with the bellows. One wonders that he does not get seriously burned as he works with his red-hot metals in his lowly, and, to our idea, awkward position. There is a *tabi* (one-toed sock worn by the people) and legging maker's where a number of small boys busily stitch away at the blue and white articles. The shops are very numerous, but small, owing to the excessive division of labour. The only co-operation that exists is the informal one of friendship. In order to get a complete costume of robe, *tabi*, sandals, clogs, umbrella, belt, and other little accessories, one must visit as many shops as there are articles required. A clothier recommends you to his friend the tailor ; and the clog maker to his friend the umbrella maker. Every Japanese is one of a coterie of friends who are indebted to each other in many ways. One great feature of their friendship is the constant interchange of presents, for which they seem to invent suitable occasions. These gifts are always wrapped up neatly, and usually tied with two bunches of waxed strings coloured white and red. At the right hand corner of the parcel is placed a piece of paper shaped like a spear head, and bearing the name of the giver, and the Chinese characters signifying "Trifles." The gifts are usually of candles, or of tea, cakes, eggs, and other edibles. Fish are presented alive in a new flat wooden pail, lined with green leaves and half full of water. This is placed on a raised tray and covered with an embroidered silk cloth. When a Japanese seeks some favour he brings a gift, a drawing of his own, a box of

sweetmeats, or anything that he thinks will be pleasing to his desired patron.

Outside the town the *jinrikisha* had to be changed, and while waiting the travellers went into an inn and partook of some of the "pêstry" gifted by their worthy shipboard friends. As it was far from delectable they presented it to some coolies who were gazing in wonder at them. The fresh *jinrikisha* came round presently and the lady leading off, the party sped along a well laid road through paddy fields where the ripening grain was waving in the breeze. Away to the left were green, densely wooded mountains; to the right the sea, which seemed to roll up to the very base of the great volcano of Chokaisan, whose regular cone, streaked with snow stood boldly out against the sky; and in front rose a hill crowned with pines, along the side of which the road began to wind. On both sides of the road grew pine trees tall and stately, their red trunks contrasting with the rich green of the foliage which met overhead, and formed a cool shade from the hot noonday sun. Through the lower branches a pretty view was got of undulating hills covered with luxuriant vegetation, and the carefully cultivated fields that lay in the hollows or ran a little way up the slopes.

The road now descended into a valley and went through the sandy little village of Toshima where the *jinrikisha* had to be left behind. All the villagers were enjoying a siesta, and in the houses figures were seen in various attitudes of repose. The very dogs were quietly sleeping and without the proverbial "one eye open" for they did not look up and bark as the unusual party entered their quiet village. In the hotel the sliding screens which divided the rooms were removed for the sake of coolness, and the floors were strewn with sleeping forms.

Leslie, the Canadian, soon roused attention by his stentorian tones and fluent Japanese, and sleepy heads were lifted from the break-neck pillows. It is not meant that these pillows break the necks of the natives, but that they would tend to dislocate the necks of any other people. The stand is of wood shaped like a pyramid five inches high, nine inches at the base, narrowing to five inches at the top, and three inches thick. The base is rounded to give an easy rolling motion to the head, and on the top is a little sausage-like cushion on which the neck rests. The pillow is not unlike the bridge of a violin and the sleeper the strings! For a short time one can endure these head-rests, but very soon the neck tires and one thankfully seeks the floor. The coiffure of a Japanese woman is rather elaborate,

and only the higher classes have it arranged oftener than three times a week. This narrow pillow on which only the neck rests leaves the hair undisturbed so that it remains quite neat for several days. No Japanese woman can arrange her own hair. A class of women earn their livelihood by going from house to house at stated intervals and for a few pence arranging the hair of the fair inmates. They might be called itinerant lady's maids.

After a little delay three pack-horses were brought. The baggage was strapped on both sides of the high, awkward saddles, the riders perched themselves on the top in the hollow between the hampers, and the cavalcade moved off with slow, stately steps. To gracefully mount a pack-horse is a feat rarely, if ever, attainable even by the most agile, and to look elegant when mounted is quite impossible. The average rate of these pack-horses is two and a half miles an hour, and no one from choice would seek this slow, swaying mode of travel.

The road wound through a pretty valley where every available piece of ground seemed cultivated. The different crops made quite a patch-work effect—here a triangular patch of white flowering buck-wheat, there a long strip of the purple green egg-plant, in the centre a square of bright green-leafed *daikon* (a species of parsnip much prized by the natives), and the whole bordered by the tall maize or millet with their feathery tufts. Then as the road descended, and the valley widened, crops of barley and wheat waved on the upland slopes, the grain growing in clumps along regular furrows, not sown broadcast as with us; and on the flats lay the fields of ripening rice.

By the road side and on the edges of the fields grew lacquer trees. One tree yields so little lacquer that it would be unprofitable to cultivate them on arable land, so they are planted on places where nothing else would grow. The best lacquer is got from the young trees. When they are about fifteen years old and twelve feet high they are cut down as useless. The sap is drawn from the tree from June to September, and when the best lacquer is wanted the trees are only tapped every two years. The fluid that exudes at the horizontal incisions made in the stem and branches is viscous, and of a greyish colour. Many thousands of people are employed in the lacquer industry which is one of the most important in Japan, from a utilitarian as well as an artistic point of view.

In the glow of sunset the village of Sakai was reached, and the weary travellers thankfully came down from their exalted but un-

comfortable positions on the pack-saddles, and sought rest in the cheery inn.

"Yes," said Monroe, the Scotchman, as he stamped to relieve his "sleeping" feet, "high positions have their decided drawbacks, and the beggars on foot haven't the worst of it. I'll walk to-morrow." "I guess I'll do the same," echoed Leslie drowsily from the floor where he had thrown himself to stretch his weary back. "Anything to escape these pack-saddles," yawned Miss Monroe. "I'm willing to do my share of walking. Let us hire only two horses to-morrow, and take turns." "A capital idea, we'll do it," exclaimed the two men.

The discussion was interrupted by the entrance of the host with the question, uttered amid many bows. "What would the honourable guests like to eat?" "We have our own food," answered Leslie, "and shall only require a fire, pots, and dishes from you." With more bows and a heartfelt sigh of relief he withdrew, these were the first foreigners he had ever entertained and his anxiety for their comfort was great. Presently a smiling maid drew aside the sliding screens, bowed to the ground, and asked, "Would the honourable strangers like a hot bath?" "Certainly," replied the three in chorus; and they proceeded in turn to immerse themselves in the welcome tub, a luxury always to be had in Japan.

Monroe, whose turn came last had spent the interval in baking hot buckwheat cakes at the charcoal stove in the kitchen. When Miss Monroe came to relieve guard she found her brother squatted by the hearth with a serious, perplexed expression on his face an array of plates, broken egg shells, flour, condensed milk and butter tins, and spoons around him, and an outer circle of admiring natives! Evidently the culinary cares pressed heavily on our student friend, and he gladly gave up the post of cook to his sister. She, with the help of Leslie, who now appeared, looking immense in a Japanese robe, served up a simple meal, which hunger made a delectable feast.

The village was holding a *matsuri* (religious fête), and in honour of the occasion the villagers were gaily dressed, flags fluttered from many of the houses, paper lanterns lit up the street, and drums were beat incessantly. It is wonderful that a people so civilized as the Japanese can endure this savage "tom-tomming," and accompany it with wild shrieks and howls that would rival a menagerie of wild beasts at feeding-time. The gentle, courteous

people become transformed under the influence of *sake* (rice-beer), and fervour, into the veriest howling dervishes.

There is little temptation to sit up late in a Japanese inn. The coarse candles on their high stands give but an imperfect light and much energy is wasted in snuffing. The *andon*, or rush-light, which the Japanese usually keep burning all night, gives no trouble, but the fishy smell of the oil used is an offence to foreigners and it is banished as soon as it makes its appearance. Then the squatting on the floor covered though it is with mats an inch thick, is very wearisome to those unaccustomed to it. The best alternative, and the one most resorted to, is to retire to rest very early.

"As we make an early start tomorrow, we had better order *futon* (quilts) and get to bed," suggested Monroe about eight o'clock. As the other two agreed to the wise proposal, he clapped his hands and was answered by a nasal call from the kitchen, quickly followed by a shuffling step; and a maid looked in for orders. "Bring sixteen *futon* and be sure they are the best and the softest," said Leslie. With a puzzled look that seemed to say, "So many!" the girl drew aside the sliding screens in one of the rooms and brought out of a press a great pile of *futon*, covered with dark-tinted prints. These were spread on the floors of separate rooms; two as mattress, one to cover, and one rolled up to form a pillow. The inn-folk came in to gaze at the wonderful operation, and the sheets which Miss Monroe put over the *futon* roused their out-spoken admiration. "How beautiful! Does the (here many untranslateable honourifics were used) young lady always sleep with these lovely white sheets?"

As the natives merely lie down on one *futon*, roll themselves in thickly quilted dressing gowns, and lay their necks on the narrow pillows, the elaborate preparations of foreigners are a source of wonder to them.

The sliding screens were now drawn to separate the rooms, and the inn people left their guests with many salutations and kind wishes for their comfort during the night.

"Will these people never stop that noise?" Said Leslie's voice through the screens after a short interval in which sleep was sought in vain. "Perhaps about midnight," answered Monroe. And it was too true, for not till then did the "tom-tomming" and shrieking cease, and permit the weary travellers to sleep.

At early break of day a cannonading was heard, loud enough to rouse completely the heaviest sleeper. This was the usual noise made in sliding away the outer wooden shutters and opening up

the inn, a duty which the servants perform with noisy vigour. "Dear me, why must those people open these shutters at such an unearthly hour? One may as well get up for there's no more sleep to be got here—that's evident," sighed forth Leslie. "Yes, and it's only four o'clock," replied Monroe. "But what's all this row about?" "Oh it's these merchants who arrived late last night. They are starting on their journey again. I wonder how they exist with so little sleep." "I daresay they make up for it in the middle of the day, or perhaps sleep on the packsaddles. That man looked very like it yesterday. But we'd better waken that sister of mine, and make a start." "Do you imagine that I have slept through all that commotion?" came laughingly through the screens from Miss Monroe. "We thought it safer to make sure," replied Monroe.

After hurried preparations Miss Monroe and her brother got to horse, and the little party started amid the kind wishes of the inn folk. Leslie had agreed to walk the first hour and his long stride soon took him ahead of the slow-going pack-horses. The road, like so many highroads in Japan, was bordered by fine old trees, whose foliage grew in horizontal lines and formed an archway overhead. A silence, broken occasionally by the "sough" of the wind and voices of the travellers speaking to each other, or the *mago* calling to their horses, filled the air. No song of birds thrilled the heart with its sweet melody. The gay butterflies that flitted from flower to flower, or some bright insect whose burnished coat gleamed for a moment in a sunbeam that glinted through the branches, were the only signs of winged life. Down below, to the right reposed a peaceful valley lit up by the morning sun which chased away the mists from the surrounding hills and warmly tinted the cloudlets that played around the summit of Chakaisom; to the left was the green hillside covered with luxuriant vegetation, and an occasional grove of cryptomerias. In the cool depths of one grove slept a shrine, which was reached by a stone-paved avenue.

"The Japanese certainly build their temples and shrines in beautiful places," said Miss Monroe as they stopped to look at the quiet scene. "I wonder if many worshippers come to this lonely spot?" "Not many, I should suppose. The *mago* (pack-horse leader) says only those who desire some very special blessing ever come," replied her brother. "What curious gates these shinto temples have! They look rather like a gallows-tree, but some one told me the name given them means 'bird-perch.'"

"*Torii*; yes, that is the usual meaning given, although it does not

throw much light on the subject. There are several *torii* leading up to this shrine, evidently some people have had their desires granted."

"Why? Do they put a gate up when their prayer is answered?"

"Yes, those do who can afford it. But it's the trees I admire most; what grand, straight fellows they are! I don't wonder the people dislike to cut them down even to repair the temples, although that was the first intention. However, we mustn't stay here all day, Leslie will be waiting for us, his hour is up. Certainly I'll be glad to get down off this saddle."

They soon came upon Leslie stretched out under a tree enjoying the view. He mounted the horse ridden by Monroe, and the procession moved on again. In a short time the road descended through a wood of tall conifers into the plain along which it kept all day. Soft, billowy hills rose on all sides and shut out the world beyond. The ripening grain in the paddy-fields swayed in the gentle breeze as though inviting the birds to a rich feast. To keep these freebooters in check, rough wooden platforms with roofs of matting were erected in convenient places, and boys were stationed on them. These youngsters were supposed to beat a drum, shout, or make any noise loud and discordant enough to frighten the winged enemies that came from the hills in troops. This license to make as much disturbance as they chose was doubtless thoroughly enjoyed by the lads, and their young voices rang cheerily on the quiet air. The road with impartial generosity, turned, and crossed, and twisted so as to embrace nearly all the hamlets that dotted the plain to right or left. Our travellers, less generous it may be, or too prejudiced to appreciate such impartiality, were somewhat disgusted with this lengthening of the way, and pronounced the system very foolish.

Towards noon, Jinguji, a pretty village nestling at the foot of a conical hill, was reached. Here the pack-horses left to return to Sakai before sunset. The principal inn was sought out, provision hampers opened, and a welcome repast prepared. The report soon spread that foreigners were at the inn, and a crowd quickly gathered to see the rare sight. The day was very warm and all the screens were removed, so that those on the street had a complete view of the interior. It was somewhat trying to eat under the fire of so many twinkling black eyes, but our travellers were too hungry to let it interfere with their enjoyment of the good fare. Large, green water melons chopped into pieces a few inches square were

brought by a smiling little lassie, and heartily relished. The host roused himself from his siesta to come in and converse with his guests, and ask them questions of a decidedly personal nature. This was intended for kindness, and to have treated it as familiarity would have needlessly distressed the good man. A neat waitress who mounted guard over the rice tub, and doled out small quantities as desired, into the porcelain bowls, kept up an undercurrent of conversation with Miss Monroe, whose dress, fair skin, and light brown hair, much interested her. The fat hostess grinned amiably in the background, and was ably supported by the men and women servants and children who formed a small court around her.

MARY KNOTT.

THE HINDU RELIGION.

There seems to be a general impression that the Hindus have but one religion with slight minor differences in matters of detail and ceremonial observances. This is altogether a mistake. There are quite as great differences between the forms of belief grouped under the term "Hindu religion" as there are between any of the principal religions of the world. Some of the doctrines of the Hindu religion are theistic, some atheistic and some pantheistic. According to some sects, salvation is obtainable by practising austerities and by devotion and prayer, while others consider that the means of salvation are sacrificial observances. Some teach the doctrine of predestination and others the doctrine of free grace. Some attach importance to medicinal drugs as the means of obtaining a knowledge of God, and others to the practice of "Yogam" or the control of breath, subjugation of the senses, &c. In short, Hinduism is an encyclopædia of religions. Hoping that it may interest the general reader, I give below a brief summary of the principal doctrines of each sect or religion which existed or still exists in India so far as I have examined,—but not having completed the examination of all the religious systems, I have not endeavoured to arrange the sects strictly according to their logical or chronological order. When the principal doctrines of each sect are known, it will be easy to take a comprehensive view of the whole, trace the progress of religious thought, and compare the various systems of belief in India with their European counterparts.

It is not unlikely that I may have fallen into many mistakes, and if so my readers will doubtless correct me. My object is simply to excite an interest in this subject, and I shall be quite satisfied if that object is obtained.

The Charvaka System.

In this school, which is a very ancient one but which has now hardly any following, the four elements (air, fire, water, and earth) are the original principles. From these alone, when transformed into the body, intelligence is produced, just as the inebriating power is developed from the mixing of certain ingredients, and when these are destroyed, intelligence also at once perishes.

The soul is only the body distinguished by the attribute of intelligence and there is no evidence for the existence of a soul distinct from the body. The only end of man is enjoyment produced by sensual pleasures and there is no other hell than mundane pain produced purely by mundane causes. The only supreme is the earthly monarch and the only liberation is the dissolution of the body.

Jaimini System or Púrva Mìmánsa.

This is the most ancient system, the tenets of which are still considered binding by a large majority of the Brahmins. This is called *Púrva Mìmánsa* or "anterior philosophy" because it is anterior to the *Vedanta* philosophy of Sankaracharyar.

This system holds—

(1) That the world is real and not an illusion.

(2) That the world is eternal.

(3) That the Vedas are eternal and constitute a code of ethics and religion.

(4) That heaven and the happiness there are material.

(5) That soul is eternal.

(6) That souls transmigrate according to their merits.

(7) That souls attain heaven by means of sacrifices and the performance of such other rites as are prescribed in the Vedas.

(8) That sacrifices give not only heaven but also worldly happiness.

(9) That human mind must he restrained only so far as it may be necessary to follow the Vedas, but in all other respects, one is at liberty to act as he pleases.

(10) That sacrifices can be performed by the *aryans* alone, *i.e.*, Brahmins, Kshatriyas, and Vaisyas.

The above are the main principles. The founder Jaiminachary enters into a minute detail of the manner in which sacrifices should be performed, which it is not necessary to detail here.

The Buddha System.

This religion was founded by Buddha about 600 years before the Christian era.

The chief doctrinal points of this religion are,

(1) Existence is pain.

(2) The cause of pain is desire.

(3) The cessation of pain can be obtained by the suppression of desire.

(4) The way which leads to this suppression is knowledge.

(5) For obtaining this knowledge a man must practise,

(*a*) right belief.
(*b*) right thought.
(*c*) right speech.
(*d*) right doctrine.
(*e*) right means of livelihood.
(*f*) right endeavour.
(*g*) right memory and right meditation.

These are called the eight paths to salvation, or total cessation of pains.

There are four classes of *Bauddhas, viz.,*

(1) Mádhyamikas.
(2) Yogacharas.
(3) Sautrantikas.
(4) Vaibháshikás.

MÁDHYAMIKAS, hold (1) that all that exists is but momentary, so much so that nothing is a possible object of knowledge, and that all that exists is but an idea, and that when all ideas come to an end final extinction which is a void will result, and (2) that all transmigratory existence is pain and pain alone.

When they say that everything that exists is momentary, they mean that matter is not a permanent entity, and that it vanishes as soon as it comes into existence. For instance, suppose yourself gazing at a sunset, you will see the whole western heavens glowing with roseate hues but these melt away before your eyes. The change of colours is so rapid that within the millionth part of a second, you will see that the whole glory of the painted heavens has undergone an incalculable series of mutations. One shade is supplanted by

another with a rapidity which sets all measurement at defiance. Thus, all matter is of momentary existence. If it were permanent, it should be able to exercise its functions always. For instance, if a seed were a permanent entity with powers to germinate, it must always be germinating.

YOGACHARAS, while admitting the void of external things, deny the internal void, or the baselessness of mental phenomena. They hold that intellect is its own principle, self subsistent and luminous with its own light, and that what is cognised is not other than cognition itself. There is naught to be objectified by intellect and there is no cognition ulterior thereto. As for the appearance of an interval between the object and subject consciousness, it is merely an illusion which by constant reflection will melt away.

SAUTRANTIKAS hold that the position that there is no external world is untenable and that there is an external object world perceptible; and that this external world does not rise into being only from time to time on occasions of presentiments resulting from ideation.

VAIBHÁSHIKÁS hold almost the same views as Sautrantikas. They assert that to say that external objects are merely inferrible is absurd; and hold that objects are of two kinds sensible and cogitable. Apprehension derived from sensible objects is the best form of evidence.

Arhata System.

The followers of this system, or Jainas as they are called, deny the assertion of the Bauddhas that everything is momentary. They say that the assertion is contrary to all experience and argue that if, as Bauddhas state, the object does not exist when the perception takes place and the perception does not exist at the time of the object's existence, then the whole course of the world would come to an end. Their tenets are as follows:—

(1) There is no maker of the world acting by his own free will.
(2) Soul and matter are eternal.
(3) Intelligence is common to all souls.
(4) Jeevas or souls are divided into two classes "mundane" and "released."

The "mundane" pass from birth to birth and the "released" are those who are freed from birth and are thus released from all actions. When the soul is so released, it rises upwards to the end of the world or as some describe it, goes and abides in the highest

regions absorbed in bliss untainted by any pain or impression thereof.

(5) Release from birth is obtained by three things, *viz.* right intuition, right knowledge and right conduct.

(6) A soul becomes omniscient when the hindrances to knowledge are removed, its natural capacity being to grasp all things when there are no hindrances; and these hindrances are removed by right conduct, right knowledge and right intuition.

(7) Right conduct is the entire relinquishment of blameable impulses.

(8) Right knowledge is that which embraces concisely or in detail the predicaments as they actually are.

(9) Right intuition is the acquiescence in the predicaments declared by a Jaina.

(10) The soul that has overcome all faults, desires, &c., becomes an omniscient Jaina and there is an eternal succession of such Jainas. It is through the inspirations of these omniscient Jainas and faith in their writings that men can obtain right intuition, right conduct, and right knowledge.

(11) The followers of this religion are called Syádavádás as they always reject the idea of absolute. If anybody asks them "does the thing exist?" they say it exists in a certain way, if the opponents say it does not exist, they say it does not exist in a certain way. What they mean by this is that all statements made in regard to the existence of matter and soul are true from different points of view. For instance, matter, they say, does not exist permanently when you look to its form, but, it does exist when you look at it in the abstract and to the minute particles of which the various objects of matter we see are made up; for an example, a pot is not a permanent entity, but the particles of which it is made are permanent.

(12) Jainas or the followers of this religion are of two classes—Swetambaras and Digambaras. The former live by alms, pluck out their hair, practise patience and avoid all association. The latter also pluck out their hair, carry peacock tails in their hands, drink from their hands and eat upright in the giver's house. They say that women cannot attain the highest knowledge, while the former class assert the contrary.

Sánkhya System.

There are two schools of Sánkhya philosophy, one is atheistic founded by Kapila, the other theistic founded by Patanjali. Kapila

lived in the 7th or 8th century before Christ. The term Sánkhya is from the noun *Sankhya* which means number, calculation and reasoning. The tenets of the first school as founded by Kapila are as follow :—

(1) There is no such thing as the production of the non-existent or the destruction of the existent. What exists not, can by no operation, be brought into existence, for, no instance of annihilation of an existent or of production of non-existent has ever been seen.

(2) There are three sorts of evidence,—perception, inference, and testimony. Whatever thing is not cognised by perception when there are no hindrances to the perception, that indeed is absolutely non-existent. The hindrances to perception are (1) destruction of the organs of sense, (2) some other passion dominating the mind, (3) subtility, (4) remoteness, (5) proximity, and (6) overwhelmingness.

(3) There are only two uncaused entities, *viz. Prakriti* or matter and *Purusha* or soul. Matter has the capacity to develope and contract, but the soul has no such capacity. There is a plurality of souls, each soul being a separate existence.

(4) *Prakriti* or original matter is not atomic in the opinion of Sánkhyas, but all-pervasive. It has three qualities or rather it is composed of three different kinds, *viz. Satva* or happiness and goodness, *Rajasa* or activity and misery, and *Tamasa* or stupidity and indifference. The world is composed of these three qualities, and every individual object has them though in an infinite variety of conditions. For instance, a jar when obtained causes pleasure to the possessor, when seized by others it causes pain, and it is viewed with indifference by one who has no interest in it.

(5) When *Prakriti* and *Purusha* come in contact, which takes place only by accident, *Mahat* or intellect is produced, not by any volition of the soul, for it has no volition, but by mere proximity. Just as a movement takes place in iron in the proximity of the unmoved magnet, so the intellect comes into existence from matter in the proximity of soul. In other words, intellect is material and is acquired by the soul when it comes into contact with matter.

(6) It cannot be said that because we observe a design in the world, there is an intelligent designer. It is true that when we see the arrangement of materials in a house, we see the architect's plan, because the materials have no spontaneous tendency to group themselves into a house, but organic materials have this spontaneous tendency to arrange themselves into definite forms, precisely as we

see chemical substances arranging themselves in definite forms without the intervention of any extra-chemical agency.

(7) As *Prakriti* is the source of pain, the soul seeks to throw it off and looks to final bliss or absolute isolation. This is effected by meditation and contemplation. As a wilful woman, whose faults have been seen by her husband, does not return to him, or as an actress having performed her part retires from the stage, so too does *Prakriti* desist when the soul sees its faults.

(8) As already observed, the first product of *Prakriti* or matter is *Mahat* or intellect. From *Mahat* comes *Ahankára* or self-consciousness and from *Ahankára* comes the *Tanmátra* or the essences of the gross material things and the *Indriyas* or organs, and from the latter, the *Súkshma bhúta* or the subtile elements, earth, air, water, fire, akas. and from the subtile elements the *Stûla bhúta*, or the gross elements. What is meant by saying that elements are produced by intellect and self-consciousness appears to me to be this, *viz.*, the world is created within us and although there is something without us, the world as we conceive of it, exists only in our conception.

(9) Besides the gross material body which perishes at each migration of the soul, the soul has a body called *linga* which is formed out of the subtler elements of nature. This attends the soul until finally a complete separation from matter is obtained.

(10) The complete cessation of pain is the complete end of man. When the soul is finally separated from matter which is obtained by the knowledge of the Sánkhya Philosophy and not by moral or religious virtue, it will remain self-existent, in a state of passive and eternal repose. Kapila does not altogether discard the Vedas, but he does not evidently consider them as infallible.

Theistic Sánkhyam.

The founder of this system is Patanjali who lived about 200 years before Christ. He differs from the atheistic Sánkhyam in only one respect. That is, he lays down that uncaused entities are not two but three, *viz.*, God, soul, and matter. God is not affected by matter and has power to relieve soul from pain caused by its coming in contact with matter. For this purpose, a man must practise Yógam which consists of :—

(1) *Yama*—Self restraint.

(2) *Niyama*—The necessary religious duties.

(3) *Asana*—Postures.

(4) *Pránáyáma*—Restraint of breath.
(5) *Pratyáthára*—Subjugation of the senses.
(6) *Dhárana*—Fixed control.
(7) *Dhyána*—Contemplation.
(8) *Samádhi*—Pious meditation.

There are detailed instructions as to how Yógam should be performed and it is also necessary that a man who performs Yógam should practise continence, abstinence from injury, truth, non-stealing, non-coveting, recitation of texts, purification, contentment, austerity, and control of himself and should make his mind intent on Brahma. *Yógam* thus performed bestows excellent rewards when done through the desire of reward, and eternal liberation to those void of desire.

Adwita Philosophy or Nondualism.

The founder of this system is Sankaracharyar who lived in the 8th century of the Christian era. The principles of this system are as follows:—

(1) There is only one thing that is real and existent. It is Bramha—the pure intelligence and joy without a second and is unlimited by space and time. All the rest is unreal and the result of illusion.

(2) Illusion or Maya is the power of Bramha, but not Bramha itself, just as power of fire is not fire. It is not either a non-entity or an existing reality. It is something inexplicable.

(3) Illusion or Maya has three qualities activity, goodness, and indifference (Rajas, Satwa, and Tamas). It has two powers, namely (*a*) envelopment or concealment and (*b*) projection. The power of envelopment is such that a small thing appears as a large. The power of projection is such that one thing appears as another, *e.g.*, a rope appears as a snake.

(4) Brahma by the association of Illusion (Maya) becomes supreme personal God. Maya does not reside in all and every part of the absolute reality, but only in one part.

(5) The supreme personal God having desired, May I become many, and may I pass into plurality, created the world. As sparks proceed from fire, so from the imperishable reality comes the various living and insentient things. Bramha is both the material and efficient cause of the world. Just as threads reside in the cloth as its material cause, so the external ruler resides in all things as the material cause of all.

(6) As the supreme spirit is enshrined in the personal God, so is it enshrined in the heart of man. The latter is also associated with Illusion, but the Illusion which is associated with the Personal God abounds with Satva, (goodness,) while that which is associated with Jiva in the heart of man abounds with the other two qualities. The Illusion associated with the Personal God is called *Maya* and that associated with *Jiva* is called *Avidya*.

(7) As long as *Jiva* is associated wlth *Avidya*, so long he considers himself distinct from existing reality and from everything he sees around him.

(8) *Avidya* is destroyed by knowledge, and knowledge is obtained by meditation, contemplation, acts of forbearance, performance of religious rites, and so forth. As soon as Avidya is destroyed, the Jiva's identity with Bramha is re-established. This is *Moksha* or emancipation.

(9) So long, as the Illusion is not removed, it is the duty of every man to regard everything he sees as real, and act as if there were a Personal God. It is only when the truth is known that the duality must be set aside.

The Rámánuja System.

The tenets of Rámánuja who lived in the 13th century of the Christian era are as follows :—

(1) There are three things, *viz.*, soul, matter, and God. The supreme disposer is the absolute spirit in which dwell the soul and matter. Before creation, souls and matter which are infinite were in an imperceptible condition unsusceptible of division by names and forms, and creation is nothing more than the gross or perceptible condition of souls and matter. They will revert to the former condition when creation ceases.

(2) A soul is different from the supreme or absolute spirit and it is neither born, nor having been born, shall it again cease to be. It is not killed when the body is killed. It is atomic. If the hundredth part of a hair be imagined to be divided a hundred times, the soul may be supposed a part of that and yet it is capable of infinity. The soul consists of unlimited pure knowledge, but enveloped in illusion from eternity; and it undergoes contraction and expansion of knowledge according to the degrees of its merits. After reaping the pleasures and pain proportionate to merits and demerits both in this and other worlds, there ensues the knowledge of the Lord or the attainment of *Vaikuntham*, the

sphere of the Lord. Once the soul goes to *Vaikuntham* or the sphere of the Lord, it never returns to the world but continues there with a peculiar body serving the Lord and enjoying happiness.

(3) *Vasudeva* is the supreme absolute spirit endowed with auspicious attributes, the substantial cause of the worlds and the animator of spirits. This *Vasudeva* is in five forms, *viz.*, *Archa*, *Vibhava*, *Vyúha*, *Súkshma*, and *Antaryámi*. *Archa* means an idol fit for adoration, *Vibhava* means incarnations such as of Rama and Krishna, *Vyúha* means manifestations such as Vasudeva, Sankarshna, Pradyumna and Aniruddha, *Súkshma* means subtle. *Antaryámi* means the internal controller or the actuator of all spirits. *Vasudéva* must be worshipped in the order of the forms abovementioned, and by worshipping each former embodiment, a mass of sins inimical to the end of the soul is destroyed and the votary becomes entitled to practise the worship of each latter embodiment. The worship is of five kinds:—

(*a*) Sweeping and smeering the way to the temple.
(*b*) The preparation or the provision of perfumes, flowers and the like appliances of worship.
(*c*) Oblation or offerings to the deities.
(*d*) Recitation or the muttered ejaculation of sacred texts.
(*e*) Devotion or meditation on the deity.

By such worship, and by the knowledge acquired by the merit of such worship, the vision of the visible world is brought to a close, and the supreme spirit bestows upon the votary his own mansion, blissful and undecaying, whence there is no more return. It is not mere performance of the sacred rites that ensures emancipation. The performance of the rites engenders dispassionateness and creates a wish to know the absolute. The performance of sacred rites and knowledge of the absolute are in the relation of cause and effect. Knowledge leads to devotion or faith the attainment whereof results from:—

(*a*) *Viveka* or discrimination and purity of understanding.
(*b*) *Vimoha* or lonely meditation without attachment to sensuous desires.
(*c*) *Abhyasam* or practice or reiteration.
(*d*) *Kriya* or observance or performance of the rites enjoined in revelation and tradition according to one's ability.

But mere knowledge unaccompanied by the performance of sacred rites or mere faith cannot ensure emancipation. It is knowledge together with works and faith that is efficacious of emancipation.

In one view, even all the three mentioned above, *i.e.*, knowledge, faith, and performance of rites, cannot procure emancipation. It is attainable only by the free grace of God who is not attainable by exposition, nor by wisdom, nor by learning. Whom God chooses, by him God may be attained. This religion, though, as above shown, it is strictly a dualism is called *Visistadwitam*, or "non-dualism in a qualified sense." It is non-dualism in the sense that the *Visistas* or the holders of the universe in its subtle and gross forms are identical. There is no religion which denies this identity, but the theory is advanced simply to show that non-dualism wherever it finds a place in the Vedas means this, and not the identity of spirit and matter, and of God and soul.

Madhwa Religion.

The founder of this religion which has a large following is Ánandatirtha or Purnapregna, said to be the third incarnation of the god Vayu. He was born in the 13th century of the Christian era.

This religion is known by the name of *Dwita* religion or religion of duality. It holds that :—

(1) God or *Vishnu* is different from soul or *Jiva*.

(2) God is different from matter.

(3) One soul is different from another.

(4) Soul is different from matter.

(5) One particle of matter is different from another.

The tenets of this religion are as follow :—

(*a*) God, soul, and matter are uncaused entities and everlasting.

(*b*) Vishnu is God Almighty and independent. Souls and matter are dependent upon God.

(*c*) Souls are atomic and unlimited in number.

(*d*) Worlds exist at intervals between one general deluge and another, called *Maha-pralayam*. There are several minor deluges.

(*e*) During the periods between one *Maha-pralayam* and another, God takes out a certain number of souls from their infinite number and allows them to have births.

(*f*) Souls transmigrate from one body to another, and from one world to another and suffer pain or enjoy happiness according to the merits or demerits of their actions. Finally, they go to permanent heaven or permanent hell. Some souls have births and deaths always.

(*g*) Emancipation of the soul or obtaining heaven is the highest end of all men, and this can be obtained only by the grace of God, which grace is won through the knowledge of His excellence.

(*h*) Though it is by the knowledge of God that souls obtain His grace, still it is not possible for every soul to obtain that knowledge, souls being in their very nature, good, bad, or of mixed character. Good souls get knowledge and win God's grace, bad souls commit bad actions and go to hell, and souls of mixed character always go round the circle of births and deaths. God has power to alter their nature, but it is not his pleasure to do so.

(*i*) Souls obtain knowledge of God by service to Vishnu, God the Almighty, which is of three kinds, *viz.*—

(i) Branding one's self with the weapons of Vishnu as a memorial of him.

(ii) Calling sons and others by such names as *Kesava*, as a continual memorial of the name of the supreme Lord.

(iii) Worship, which is of ten kinds, *viz.*—

(1)	Veracity.	Actions of the tongue.
(2)	Kind language.	
(3)	Useful instruction.	
(4)	Sacred study.	
(5)	Alms-giving.	Actions of the body.
(6)	Defending (the weak).	
(7)	Protecting (the poor and the weak).	
(8)	Mercy.	Actions of the mind.
(9)	Love or affection.	
(10)	Zeal (in doing good things.)	

(*j*) To obtain heaven it is also necessary that men should know that there is a difference in the rank of Gods which is as follows :—

1st. Vishnu—Supreme.
2nd. Lakshmi.
3rd. Brahma and Váyu.
4th. Brahma's wife.
5th. Vayu's wife.
6th. Garuda.
7th. Ádisesha.
8th. Rudra.

Wives of the three Gods named above come next. Then Indra and so on.

(*k*) Souls are sent to permanent hell :—

(1) When they do not believe in the five differences between God and soul, soul and matter, &c.

(2) When they believe that God Vishnu has no qualities.
(3) When they believe that Vishnu is not perfect.
(4) When they believe that Vishnu is not unequalled.
(5) When they believe that Vishnu has a superior.
(6) When they believe that there is a difference between one incarnation and another incarnation.
(7) When they believe that Vishnu has birth and death.
(8) When they hate the believers in Vishnu.
(9) When they censure the holy texts.

All the abovementioned bad qualities must combine to make a soul deserve permanent hell.

(*l*) The happiness in heaven and the pain in hell vary in the case of each soul according to the intensity of his good or evil actions, just in the same way as they differ in this world. There are many small points which good men have to observe, but the abovementioned are the chief.

Vallabha Matham.

This religion was founded by Vallabhacharyar said to be the incarnation of Krishna in the 15th century of the Christian era. The chief principles of this religion are as follows :—

(1) Krishna or God consists of 3 parts, *sat* (existence), *chit* (intelligence), and *ananda* (joy).

(2) Matter is a part of *sat,* and soul is a part of *chit.*

(3) Souls are numerous.

(4) By the will of *Krishna* the soul enters a body and loses its real knowledge, but, by the grace of God, it gets back its knowledge and gets back to Krishna to be for ever with him and enjoy eternal bliss. It joins Krishna but is not absorbed with him.

(5) The means of obtaining the grace of Krishna and supreme beatitude is *Bhakti* or faith in him. Those that have faith must pass through 4 stages, *viz. Santa* or calm contemplation, *Dasya* or servitude, *Sakhya* or friendship, and *Madhurya* or love such as the milk-maids of Brundavan had for Krishna.

(6) Those persons that assume to themselves the shape of women, men, trees, flowers, &c., at Gokul and worship and serve Krishna are known to follow the *Pushtimarga* and are entitled to a peculiar heaven and happiness. Those that read Bhagavat and recognize Krishna in everything they worship are called Maryádikas and are entitled to heaven, but of an inferior kind.

(7) Vallabhacharyar does not recommend asceticism. He main-

tained that the worship of the Krishna need not be accompanied with fasting, self-mortification and suppression of passions, but that the good things of the world were intended to be enjoyed.

Sàkteyam.

This religion is an ancient one, and is followed to a considerable extent in Southern India. Its tenets are as follows :—

(1) The female principle or *sakti* is the first cause of all that exists.

(2) Jivas or souls which are infinite in number are the emanations of the first principle, but owing to some illusion they believe that they are distinct from her.

(3) Inanimate as well as animate things have souls, with different degrees of knowledge and power according to their *karma* or actions in their previous existences which are without beginning.

(4) Souls transmigrate from one body to another and it is only after they are born as men that they can obtain heaven.

(5) To obtain heaven men should worship females, the representatives of the first principle. Nothing should be done to them which would make them unhappy. One should not strike a female even with a flower. Every limb of her must be worshipped in the manner prescribed in this religion, meat and liquors should be given her, and the worshipper himself must partake of them freely and then enjoy her. Such a worship is productive of happiness both in this world and the world to come.

(6) By worshipping females in the manner prescribed, souls will obtain a region called *Sarvalokam* where there is nothing but happiness, the happiness being of the same kind as that experienced by men when they have sexual intercourse or when they get themselves fully drunk.

(7) There is no use in fasting, bathing, making sacrifices, offering prayers, or performing ceremonies, nor is there any use in drinking liquors or eating meat, or enjoying women unless it be in the manner prescribed by this religion.

(8) There is merit in one offering his own sister or daughter to a pious man or *yogi* who worships the female principle in the manner sanctioned by this religion. The most youthful and beautiful are the fittest objects of worship.

Pásupata System.

This system was founded by Nakulesa who is said to be an incar-

nation of *Rudra*. He is said to have lived early in the *Vaiṣampayana* era of the Kaliyug. Its tenets are as follow:—

(1) There is a God who is the cause of all causes, possessor of infinite powers; and the God though one, is divided according to attributes and actions into Maheswara, Vishnu, &c.

(2) Soul is a permanent entity co-existent with God but without his powers.

(3) Soul attains nearness to the supreme being by the grace of God, which grace is obtained by the performance of religious rites, or the knowledge of God according to the principles of this religion.

(4) The religious rites consist of (1) bathing with sand, (2) lying upon sand, (3) enunciation of Rudra's name, (4) singing in celebration of the qualities, glories, &c., of Maheswara, (5) the ejaculation of Ho! like the bellowing of a bull, (6) postures such as snoring, trembling, limping, wooing, &c, (7) dancing, (8) adoration, (9) living on broken food, &c.

(5) Emanicipation or Moksha does not consist merely of cessation of pains, but also the attainment of supremacy and some of the divine perfections, such as swiftness of thought, the power of assuming forms at will, and the power of moving in space without restraint.

The works above-mentioned or knowledge cannot by themselves obtain emanicipation, but the works are fruitful only when furthered by the will of the Lord. Men must engage in the works just as the husbandman engages in husbandry though the crop be uncertain and depends upon rain.

Saiva System.

This system appears to be the off-shoot of Pasupati system. It appears to have arisen in the 11th century A.D. the founder being Srikantha Sivachari.

This system holds that God, soul, and matter are three different entities. God is called "the master," the soul "the cattle" and the matter or world "the fetter," that is, soul is the beast, God is its owner, and matter its fetters.

(2) Siva is the God who is omniscient has no material body, but only a body of pure energy—*Sakti*. He, however, assumes certain forms to show mercy to his devoted servants, since meditation, worship, &c., are impossible towards a being destitute of forms. His operations are creation, preservation, destruction, and obscuration. He is the universal agent, but not irrespective of the actions done by living beings.

(3) Soul is non-atomic. It is all-pervadingness, and eternity unlimited in its nature by space or time. Souls transmigrate according to their actions. The end of a man's existence is to liberate the soul from matter and gradually to unite it to God Siva or attain his presence and equality.

(4) Matter is eternal although its connection with any particular soul is temporary.

Its qualities are :—

(*a.*) *Malam* or enveloping. That is, matter obscures the soul's powers of reason and action. It is to the soul as the husk in rice, or rust in copper.

(*b.*) *Rodham* or obscuring power. This is called metaphorically the power of matter, but in reality it is the energy of Siva that obscures the soul by superintending matter according to desert.

(*c.*) *Karma* or action or consequence of action.

(*d.*) *Maya*, contraction and development. It comes into manifestation at the creation, and absorbs into divine energy at a mundane destruction.

(5) The liberation of soul is obtained by (1) *Gnanam* or knowledge, (2) *Kriya* or observance of the various rules of initiation, (3) *Yóga* or meditation, and (4) *Charya* or practical duty which consists of fulfilling what is enjoined and abstaining from what is forbidden.

(6) The souls receive their rewards from *Siva* according to the merits of their actions. Some are allowed the high rank of lords of knowledge (the Vidyeswaras), some are made equal to Siva, and so forth. The point in which this religion chiefly differs from Pasupati is this. The Pasupati religion holds that supreme being is the cause of liberation of the soul independent of its action, whereas the Saivas maintain that the supreme being is the cause in dependence of our actions or *Karma*.

Pratyabhignaiva system, or Recognitive system.

This is a branch of the Saiva system founded by Abhinavagupta Chari. This religion holds that the world is the manifestation of God Siva and that there is no such thing as matter and soul distinct from Siva. But there is such a thing as illusion or *Maya*, and so long as it exists the agent of cognition transmigrates through the fatality of works, but as soon as he knows that he himself and everything else is Maheswara, he is free from bondage and attains his omniscience, omnipotence and other attributes.

Recognition of the essential nature of the soul is a pre-requisite for the attainment of the above powers.

It is not clear how the illusion has come into existence.

The Raséswara, or Mercurial System.

This is also a branch of the Saiva system. Govinda Chagavat Padácharry, Rasendra, and other Maheswaras while admitting the identity of self with God, say that it is necessary that we should make our bodies strong and permanent, as emancipation results from knowledge, knowledge from study, and study is only possible in a healthy body. This healthy body can be secured by the aid of mercury and mica, which have been produced by the creative conjunction of *Hara* and *Gowri*. Many gods, *Munies*, and mankind have obtained liberation in this life by acquiring a divine body through the efficacy of quicksilver, prepared in the particular manner prescribed by Govindabhatta. This quicksilver must first be applied to the blood, and then to the body. This makes the body celestial without which pure knowledge and meditation are impossible. The efficacy of mercury can be had even by seeing, or touching, or worshipping it. After the acquisition of a divine body by means of mercury the light of pure intelligence shines forth and the aspirant obtains liberation from the enveloping illusion, and attains to the absolute.

Nyáya System.

The founder of this system is Gautama who is said to have been born in Tretáyug or the second age. Its tenets are as follow :—

(1) A Soul is separate from the body and other senses, and is different in each person.

(2) The supreme soul is *one*, the maker of all things and the seat of entire knowledge.

(3) The soul migrates from one body to another and experiences, the fruit or retribution of deeds, good or bad.

(4) The end of existence should be deliverance from pain and the blessedness the soul attains by knowledge and meditating on self, and not by any acts of virtue which can only obtain a better state of connection.

(5) Proofs admissible are of 4 kinds, *viz.*—

(*a*) Pratyaksha—Perception by the senses.

(*b*) Anumána—Inference.

(*c*) Upamána—Comparison.

(*d*) Sabda—Word.

Kanada's System.

Kanada's views generally coincide with those of Gautama. He

asserts that the world is made up of atoms which are eternal. He admits the authority of the Vedas, not because they come from God, but because they enjoin what is right. Kaṇada's philosophy is also called Vaiseshika philosophy.

Panini's System.

Panini is the founder of the science of grammar. This system holds that the correct exposition of words, which it is the object of this science to explain, is the means of preserving the Vedas, that prosperity arises from the employment of a correct word, and that correct interpretation and use of words entitles one to Swarga or heaven. The supreme nature is the one object denoted by all words, but differences are produced by illusory conditions. Exposition of words is the means to final bliss.

P. CHENTSAL RAO.

LITERARY NOTICES.

Manual of the Administration of the Madras Presidency Vols. I. and II. Madras, Government Press: 1885.

These two volumes, containing in all 1456 large quarto pages, form a vast storehouse of valuable information concerning the Madras Presidency, "in illustration of the Records of Government and the yearly administration reports." Not only is it intended to serve this purpose but also to take the place of a Gazetteer as regards such subjects as geography, ethnology, and history. The scope of the work is so extensive that no one man could be expected to collect all the information but the editor, Dr. Macleane, was empowered to obtain help from all Government officials so that the articles on many subjects if not actually written by persons possessing special knowledge of these subjects were at least revised by them. It is of course open to doubt if the method of having an article drafted by one with no special knowledge of the subject and then submitted for revision to a specialist is the best, but a desire for uniformity and the necessity of carefully adjusting the space devoted to each subject led the editor to believe that it was the only practicable method. The result we think is that some of the articles are rather unsatisfactory though, taken as a whole, the work must be pronounced a decided success.

The first volume is divided into nine chapters. Chapter I. is "General and political," and treats of Geography, Ethnology, History, Relations to

foreign powers and native states, Civil divisions, Forms of administration, &c. Chapter II. is devoted to the "Administration of the land." Chapter III. to "Protection:" Chapter IV. to "Production and Distribution" including such subjects as Agriculture, Trade, Forests, Public Works, Salt, Abkarry, and the Post and Telegraph service. Chapter V is on "Finance;" Chapter VI. on "Vital Statistic and Medical services." Chapter VII. on "Arts and Sciences" gives brief accounts of the Observatory, Meteorology, Geology, Archæology, Architecture, School of Arts, Madras Museum, and Government in connection with literature. How very brief these accounts are will be seen when all but the last are treated of in nineteen pages. Chapter VIII. is on "Instruction" and Chapter IX. is "Miscellaneous" taking up such subjects as Weights and Measures, Charities, and Local Fund administration.

The first 188 pages, which for some reason that does not appear are paged separately from the rest of the volume, give an interesting account of the Geograph, Ethnology and History of Madras which has evidently been compiled with much care and after long research. We will not venture to pass any opinion on the ethnological questions in which the views expressed seem to differ from those of former writers but we may say that this part of the work at least, though of course largely indebted to published writings, is by no means a mere compilation.

The book throughout is printed in two different types, that printed in the smaller type being in the form of notes which in many parts largely exceed the text. It is at times not very clear on what principle the division between text and notes is made, but as a general rule sketch histories of the various institutions and statistics are given in the notes while the text refers to the existing state of affairs. There are however parts in which we would have liked to have seen the notes and text changing places. Thus under meteorology we have a number of details with regard to instruments in the text, details which ,even if they were accurate, which unfortunately they are not in all cases, would have little or no scientific value and if given at all should appear simply as notes.

In the Chapter on Public Instruction there is an interesting sketch of the history of education in the Presidency. Passing over the remarks on indigenous education the first trace in the Government records of any payments for educational work is in 1678 when we find that "Ralph Ord, Schoolmaster" drew a salary of £50 per annum, a sum equal to that drawn by a junior member of Council. He landed in Madras in 1678—thirty-eight years after the founding of the Settlement. The next reference to education is in a letter from the Court of Directors to the Governor of Madras on the subject of the proposed municipality in 1687, where it is suggested that :—

"The Court of aldermen may by virtue of the powers granted by our intended charter, assess and levy a rate upon the inhabitants for the building

of one or more free School or Schools for teaching the English tongue to Gentoos or Moors or other Indian children, and for salaries to the School-masters, and by degrees for many other good works; . . . . . ."

In 1691, nothing having been done, Governor Yale demanded that the corporation should return the funds received for this purpose. In 1792 the Court of Directors also called attention to the manner in which education had been neglected, but nothing special seems to have been done. In 1715 the English inhabitants of Madras resolved to establish a charity school for English and Eurasian boys and girls, this was the origin of the Fort, or Saint Mary's Charity School which is now amalgamated with the Civil Asylums. In 1711 the Society for Promoting Christian Knowledge offered to provide and maintain in Madras one or more charity schools through the agency of the Danish Missionaries at Tranquebar. The Government promised to do all they could to help the schools. The Missionaries arrived early in 1717 and at once obtained permission to erect two schools, one for Portugese in the English town and one for "Malabars," as the Tamul people were called, in Black Town. Repeated protests were made against the teachers being foreigners but the S. P. C. K. replied that no Englishmen could be obtained to take up the work.

In 1746, however English was introduced as the language of the Mission by Geister. The first school for natives supported by the Company was also opened in 1717, at Cuddalore. The school for Malabars started by Ziegenbalg in Black Town soon ceased to exist, but it was reopened in 1726 by Schultze and was the origin of the present A. V. School in Vepery belonging to the S. P. G. Society. In 1746 Madras capitulated to the French, and the German Mission House being in the part of Black Town built on what is now the Esplanade was destroyed for the sake of improving the defences of the fort. The Church was at the same time converted into a magazine. On the restoration of Madras to the English the Government presented to the Mission a Church and Mission buildings which had been erected during the French occupation by a wealthy Armenian Roman Catholic on the site of the present Vepery Church. In 1760 when Count Lally besieged Madras the Mission house was again plundered and the Missionaries, Fabricius and Breithaupt, took refuge, as on the previous occasion, with the Dutch at Pulicat, returning to Madras in 1761 when the siege was raised.

In 1761, Government presented the Mission with a printing press found in Pondicherry when that place was captured by the English. This was the first printing press established in Madras and was the beginning of the S. P. C. K. press in Vepery, which has done and still does much for education. In 1786 Government aided in the foundation of the Military Female Orphan Asylum for which the Nawab purchased buildings at a cost of Rs. 80,000 and presented them to the committee.

The missionary Gericke was the first superintendent. Two years later the Military Male Orphan Asylum was started :—

"Its first Superintendent was the famous Dr. Bell, whose interest in education was so great that he served without a salary, so that funds might be provided for the improvement of the school. Want of means to provide for the great number of applicants for admission, combined with the fact that there were no competent teachers that could be engaged to assist him led Dr. Bell to invent what has since been known as the monitorial system of education. Known at first as Dr. Bell's or the Madras system it at once revealed how education could be both efficient and inexpensive and thus became the basis of all modern progress in elementary education."

About the same time schools were established at Shivagunga, Tanjore, and Combaconum through the agency of Mr. Sullivan the Resident at Tanjore and Mr. Swartz, and by the help of the local rulers. Meanwhile the S. P. C. K. had enlarged its operations and had, in Tinnevelly, nine schools with 283 children costing only Rs. 357 per annum. In 1825 the S. P. C. K. handed over its schools to the S. P. G. Society, but the press was retained and rendered more complete than formerly. In 1836, Bishop Corrie's school was opened. In 1805, the London Missionary Society began educational work, and in 1819 the Wesleyan Mission was founded by Messrs. Squance, Lynch, and Close who came from Ceylon for that purpose, and, as in Ceylon, the carrying on of Schools formed an important part of their work. The Royapetta Anglo-Vernacular School is second in age only to the Vepery Anglo-Vernacular School. The next important step towards the development of Education was taken by Sir Thomas Munro who, in 1822, instituted enquiries into the state of education throughout the Presidency and when the returns had been collected wrote an important minute on the subject. This was followed, in 1826, by the appointment of a Committee of Public Instruction and the placing of certain funds at its disposal. One of the first acts of this committee was the establishment of a Normal School for the training of teachers, with an English Head Master. The results of the scheme, except so far as the Normal School itself was concerned were by no means satisfactory and a new committee of five members called the "Committee for native education" was appointed. This committee made a number of proposals including the charging of a fee, the awarding of prizes for the best conducted schools, and the starting of a number of new schools. Government was not prepared to accept most of the proposals, but the Normal School was remodelled and a fee of half a rupee *per mensem* was imposed. The founding of the Scottish Mission Schools next falls to be described :—

"Meanwhile a new and very vigorous educational agency had entered the field; for in April 1837 Mr. Anderson opened his school. This was an era in the history of Madras education and it is necessary to note here the progress

of what was first known as the Mission of the Church of Scotland and afterwards as the Free Church Mission. This educational agency was one of the last to come into the field but mainly owing to the great energy and ability of two missionaries, the Revs. John Anderson and William Miller has grown to be one of the most important in the Presidency."

Patcheappa's School in Black Town was started in 1842, that at Conjeveram in 1846, and that at Chedambaram in 1850. The Presidency College was developed out of the Central institution opened in 1826 for training teachers and which was known for some time as the Madras High School.

The more recent history of educational progress is so well known that we need not go into details here but we may say that Dr. Macleane gives a very full and fair account of it. Nor can we do more than glance at the second volume, which consists of articles and statements supplementary to the articles in the first volume. These form by no means the least important part of the work but we have left ourselves no space to speak of them in detail.

The manual is illustrated by forty-one maps most of which have been specially prepared and will be found valuable, but we notice some defects. Thus the first map which is by William Collins, Sons & Co., does not agree with the maps in the other parts in the matter of the North Western boundary of the Presidency, and of course few of the names are spelled in the same way in Collins' map as in those prepared in Madras, while even in these latter maps the same town is spelled differently in different maps. Lists of the authorised spellings are given and it seems to us that it would have been worth while to bring the spelling in the maps and throughout the text into harmony with these lists. The typography of the volumes is excellent and we have noticed very few misprints. Copious indexes and tables of contents are supplied but we notice that in the index to the maps two have wrong pages assigned to them.

These are it is true comparatively small points and we mention them chiefly because the book is so good that we wish it had been better, for we heartily agree with what was said of it by Mr. Grant Duff in his convocation address, when he spoke of it as "Dr. Macleane's most remarkable manual of the Administration of the Presidency—a book so valuable that it is a gratification to me to think that its composition synchronized with my term of office in this country."

Selections from the minutes and other official writings of MAJOR-GENERAL SIR THOMAS MUNRO, BART., K.C.B., Governor of Madras. Edited with an introductory Memoir and Notes by SIR ALEXANDER J. ARBUTHNOT, K.C.S.I., C.I.E. A new Edition with a Map. Madras. Higginbotham & Co.

The issue, within the comparatively short space of five years, of a second edition of this volume proves that it has served its purpose and has been found of value in those quarters where it was intended to be appreciated. For this is not in the ordinary sense of the word a popular work. It was intended to "serve as a book of reference for the Administrator." The Madras Government, in authorising its publication, felt that this compilation "could not fail to prove of much practical value to all whose business it is to study Indian questions whether as Administrators or as critics." The critics are a tolerably numerous body, but we suspect the critics who "study" the questions they pretend to judge are a very insignificant minority of the whole fraternity. We can however heartily recommend this volume to all genuine or would be critics, in the full assurance that they will be instructed and benefited by the operation. They will find the questions of to-day, *mutatis mutandis*, very much the same as those of the days of Munro and Wellesley; and not only that, they will find that critics existed in those days, who urged much the same objections and pursued much the same tactics as they themselves to-day employ. Valuable and suggestive as are the official Minutes of Sir Thomas Munro, their value is much enhanced by the admirable Memoir and the pertinent notes which have been furnished by the distinguished editor, Sir A. J. Arbuthnot. We think the Government might well consider the advisability of publishing the Memoir alone in a cheap form; it would certainly be popular and would make a capital Text-book for an examination or for school reading. There is certainly much that is fascinating in the simple record of the life-work,—for his life was all work—of the *Colonel Dora*, who became known to millions as their *father*, and whose fame as a just and sympathetic ruler was far more efficient than his sepoys and his guns in reducing large tracts of hostile and unknown country to peace, order, and prosperity. Such a record will appear to many all the more strange because Munro was distinguished by none of those flashy qualities which catch for a time—often for but a very short time—the public eye. He possessed extraordinary common sense, an infinite capacity for work, simple personal tastes, and steadfast determination; but his determination was neither perversity nor obstinacy, it was of that kind which Lord William Bentinck ascribed to Metcalfe;—"He never cavilled upon a trifle and he never yielded upon a point of importance."

Munro was an admirable Governor, he proved himself a soldier of the

first order, but it was as an administrator and a revenue officer that his claim to greatness is established. He laid the foundation of the most successful systems of revenue collection that have ever obtained in India. We say systems advisedly, for he seems to have been the first man to see clearly, or at least at once to see clearly and to have the opportunity of carrying his views into effect, that one hard and fast system could not be laid down for every district and all classes of land tenure. He has frequently been cited as the unflinching advocate of the *ryotwâr* as opposed to the *Zemindari* organization. But this is very far from being the whole truth. What he opposed was the forcible introduction, in districts which from time immemorial had been *ryotwâr*, of artificial Zemindars, mere tax farmers; a system framed upon the method adopted by the Romans in their proconsular Provinces. His views upon this point will be found fully set forth in his Minutes upon the land settlements of the Baramahal or Salem District, of Canara, and of the Ceded Districts, and clearly summarized in the Memoir. In each of these three districts Munro had to settle the Revenue and in each he found a different system of land tenure. He settled each upon the basis which remains unaltered to this day and has formed the model for the rest of India. Perhaps much of the success of Munro's methods depended upon the thoroughness with which he was permitted to carry them out. He was not only a Collector but a military Collector, and the Civilians, however jealous they might be, seemed to recognize that he was capable of doing work which they themselves were quite unfit for. While the Collector in those days bore the scales of justice in one hand he carried the sword in the other. Wherever the natives felt that they were safe under the protection of the British sword, there they were industrious, orderly, and loyal. But where they detected the least trace of indecision or weakness, where they entertained any apprehension that they might be conquered by Mussalman or Mahratta or handed over again to the tender mercies of their former rulers, there they were uneasy, turbulent and intriguing. There was never any weakness or indecision in Munro and there was never any trouble in his districts. A Collector was much more independent, and had much more power of initiation then than now, and so it depended much more upon the Collector whether his rule meant war or peace.

The Minutes and letters, which dated from 1796, when Munro was employed in Salem, to within a few months of his death in 1827, are divided into five sections; Revenue, Judicial, Political, Military, and Miscellaneous. All show the singular knowledge of detail together with the comprehensiveness of view for which the writer was justly celebrated. The nature of the subjects and the voluminous style in which they are treated make it difficult to select extracts which shall not be of inordinate length. The following passages however are not without in-

terest and application at the present time. They are taken from evidence given before a Select Committee of the House of Commons and written to the Directors when, in 1812 and 1813, the renewal of the Company's Charter was under discussion. A great point of dispute was as to allowing freedom of trade (not free trade) to others than the Company's servants, and the opening of the British out-ports to the Indian trade. They show the accuracy of the writer's observation and how little he anticipated the effects of that cruel commercial policy which for the temporary benefit of British exports has crushed and ruined all indigenous trades and manufactures. Nothing can more effectually destroy the fallacy that, because the land remains, the India of to-day is as wealthy and prosperous as the India of 1813, than a comparison of the state of things now obtaining with that under the influence of which Munro wrote.

"The people of India are as much a nation of shop-keepers as we are ourselves. They never lose sight of the shop; they carry it into all their concerns, religious and civil. All their holy places and resorts for pilgrims are so many fairs for the sale of goods of all kinds. Religion and trade are in India sister arts: the one is seldom found in any large assembly without the society of the other. It is this trading disposition of the natives which induces me to think it impossible that any European traders can long remain in the interior of India, and that they must all sooner or later be driven to the coast. What the European trader eats or drinks in one month, would make a very decent mercantile profit for the Hindu for twelve. They do not, therefore meet upon equal terms; it is like two persons purchasing in the same market, the one paying a high duty the other none. The extra duty paid by the European is all the difference between his own mode of living and that of the Hindu. It is impossible therefore that he can long carry on the competition upon such an unequal footing. He may for a time, with a large capital, carry on some new manufacture, or improve some old one, such as indigo or sugar. The Hindu will wait till he sees the success which follows the undertaking; if it is likely to be successful and to be permanent, he will engage in it, and the European must quit the field. There can be no doubt, I think, that this cause will in time operate so as to force all Europeans to the sea coast; and I can have little doubt but that hereafter, when the Hindus come to correspond directly with the merchants in England, many of the agents now settled upon the coast will from the same cause, the superior economy and diligence of the Hindu, be obliged to leave India. I do not, however, think that because their merchants cannot maintain their ground in the interior, it is not necessary still to protect the natives from Europeans by Government granting licenses; for this country (*i.e.*, England) is still populous enough, and full enough of adventurers, to furnish a few hundreds to go out every year to try their fortune in India."

"As to the exports," (*i.e.* from England to India), "it is not likely that they will ever, unless very slowly, be much extended; opposed by moral and physical obstacles, by religion, by civil institutions, by climate, and by the skill and ingenuity of the people of India. Some increase there will undoubtedly be, but such as will arise principally from the increase of European Establishments, and of the mixed race which springs up in their chief settlements.

No nation will take from another what it can furnish cheaper and better itself. In India almost every article which the inhabitants require, is made cheaper and better than in Europe. Among these are all cotton and silk manufactures, leather, paper, domestic utensils of brass and iron, and implements of agriculture. Their coarse woollens though bad, will always keep their ground from their superior cheapness: their finer camblets are warmer and more lasting than ours."

* * * * * * * *

"If we reason from the past to the future, we can have no well founded expectation of any considerable extension of our exports. If it were as easy as some suppose to introduce the use of foreign articles it would have been done long ago. From the most distant ages of antiquity, there was a constant intercourse between India and the countries on the Persian Gulf and the Red Sea, without the introduction of foreign manufactures among the Hindus; and since the discovery of the Cape of Good Hope, there has been an extensive trade with the Western nations of Europe, without any one of them being more successful than the ancients, in prevailing upon the Hindus to change their customs, so far as to use their commodities in preference to their own. Neither the Portuguese, the Dutch, the French, nor the English, have in this respect effected any considerable change; but this will be imputed to the restraints imposed by the monopolies of trading companies. Let us impute to this cause all that we can, still we should expect that some progress would have been made in three centuries; that if all the natives could not purchase foreign articles, the rich would, and that the demand would be greatest at the chief seats of European trade, and lessen gradually towards the interior. But the inhabitants on the coast are as little changed as in the interior. The very domestics of Europeans adopt none of their customs and use none of their commodities.

* * * *

"The monopoly of spices by the Dutch and of piece goods by the English has not prevented their sale in Europe. It has made them dearer and made the consumers take less. Why should a monopoly of exports to India not follow the same course? Why should not the principal Native merchants purchase of the Company and retail to the country dealers? We must, therefore, look to some other cause than mono-

poly for the little progress that the demand for European commodities has made among the Hindus. Besides the peculiar customs and institutions and climate of India, we must look to the superior skill of the Indian workmen. We cannot profitably export to them, until our own fabrics excel theirs, when this is accomplished, no extraordinary skill will be required to extend the sale. The Indians will purchase, even though we should endeavour to prevent them, just as we in this country (England) purchase the contraband things of India.

But though there are unquestionably many obstacles to any considerable increase of our exports to India, the prejudices of the natives have not so much share in them as is commonly supposed. Their prejudices extend only to intoxicating liquors and certain prohibited kinds of food, they do not reach to other things. . . . . The grand obstacles to our exports are the inability of the Indians to purchase our commodities, and the cheapness and excellence of their own. It is obvious, therefore, that their demand for ours can only be enlarged, either by a general improvement in the condition of the natives of India, or by a reduction in the price of European articles."

Tales of Ind, by T. Ramakrishna, B. A., with an introduction by William Miller, M. A., LL.D., C. I. E., Principal of the Madras Christian College, Fellow of the Madras University, &c. Madras: Higginbotham and Co. 1886.

These Tales possess peculiar interest as first fruits in poetic literature of that amalgamation of Eastern and Western thought that is going on before us at the present day in this country. They are tales of India, descriptive of Indian scenery, and marked by many traits both of custom and of feeling that are characteristic of India. That they should fail to command in many points the full sympathy of the Western reader, is therefore only what should be looked for. It is farther no disparagement to add that the tales betray at times immaturity of poetic power and lack of perfect mastery over the instrument of poetic expression. When all has been said, it is remarkable how little there is either in substance or expression, that fails to satisfy the demands of Western taste. These tales—tales of woman's constancy and woman's heroism—are pleasing in themselves; and the language in which they are told is simple, imaginative and marked by a well-sustained melody. The tales are dedicated to Lord Tennyson, by "His lordship's ardent admirer in the far east;" and certainly they move in the atmosphere of the Tennysonian idyll.

"Seeta and Rama: a tale of the Indian Famine" opens with the following picture:—

> It was by far the loveliest scene in Ind:—
> A deep sunk lonely vale, 'tween verdant hills

That in eternal friendship, seemed to hold
Communion with the changing skies above;
Dark shady groves the haunts of shepherd boys
And wearied peasants in the midday noon;
A lake that shone in lustre clear and bright
Like a pure Indian diamond set amidst
Green emeralds, where every morn with songs
. . . . the busy villagers of the vale
Their green fields watered that gave them sure hopes
Of future plenty and of future joys.

Amid these scenes live Seeta and Rama; Seeta the village schoolmaster's only daughter, and Rama the only son of the rich man of the village:—

One only daughter this schoolmaster had
And Seeta was her name, the prettiest maid
In all the village, nursed by the fond cares
Of her indulgent sire, and loved with all
The tender feelings that pure love inspires
By the rich villager's only son, the heir
Of all his father's wealth; the best at school,
The boldest of the village youths at play,
And the delight of all those that saw him;
And these seemed such a fitting pair that oft
The secret whisper round the village ran
That Seeta was to wed the rich man's son.

The famine visits the district; the villagers are dispersed; Seeta and Rama are separated. After prolonged sufferings they meet again in the famine camp, but wasted by famine they remain unknown to each other. At length the famine passes and the inmates of the camp return to their homes. Seeta and Rama are fellow-travellers to Krishnapore; and as Seeta tells the story of her past life to her companion, they arrive at mutual recognition:—

As a rich mine pours forth its hidden wealth
To the delight of those that day and night
Court eagerly its treasures them t' enrich;
So from this lovely pair's deep mine of feelings
What honied words escaped now through their lips
To their intense joy, better far than all
The treasures any ample mine bestows.

"The story of Prince Desing" taken as a whole is perhaps the author's most successful effort. He shows no ordinary power in his delineation of the bravery and self-devotion:—

of the Queen who counted it
A sin her noble husband to survive,
And in a moment flung her life away.

On the eve of the fatal battle with the Moslem, the Prince seeks an interview with his betrothed wife, whom he has not yet seen. He would dispel her fears :—

My foe hath come; fear not; I go to fight
And come with honours loaded from the field.

To which the Queen:

" I was the only daughter of my sire
And cradled in his sinewy arms I grew;
And when upon his warrior breast I laid
My head to sleep, my mother by his side
Lulled me with songs of how in days gone by
The martial women of our noble race
Went with their husbands by their side to fight;
And one so nursed fears not the Moslem foe.
But now alas! some evil it forebodes,
That thou should'st on this day go forth to fight.
And as she spoke tears trickled down his eyes,
And one a pearly drop, stole to her palm.
She felt it, instantly her hand withdrew
And then began to speak in words like these—

" It is not meet that Jinji's valiant prince
Should like a child at this last hour shed tears
And fear to meet his foe; fear not my lord
To meet him like a soldier on the field.
If thou a victor comest from the fight,
We shall in joy spend our first nuptial night,
But if thou comest routed from the field,
I never more will see thy timid face
Or think that thou art born of Kshatriya race.
And if thou fallest fighting bravely, then
Remember Prince thou hast in me a wife
Who will not let thee pass from earth alone
Go forth and like a warrior meet the foe.

The Prince falls in battle, bravely fighting; and his lifeless body is carried to the castle and laid before the widowed Queen. At once by her orders the pyre is prepared :—

Then as a bride in all her glory decked
Approaches with a gladdened heart t'embrace
Th' expectant bridegroom on the nuptial bed,
E'en so ascended this fair Queen the pyre
And there embracing lay by her dear lord.
The fire was lighted and the pyre was closed,
And speedily to ashes were reduced
The lifeless husband and the living wife.

" The Story of Rudra" is unfortunate in as much as by its subject it

challenges a scarcely fair comparison with Tennyson's Enoch Arden. In addition to this there are certain features of the story that are not altogether pleasing. For these reasons this last tale, though equal to the others in point of treatment, may be expected to meet with less general appreciation.

Principles of Arithmetic, by V. RAGAVA CHETTY, Head Master, Lower School, Madras Christian College. Third Edition, Revised and Enlarged. Madras : Printed at the Memorial Press, 1886.

We confess to some difficulty in understanding why this book has been called the *Principles* of Arithmetic for however fully the *Practice* of arithmetic may be treated of in it we think that the weakest part is that dealing with questions of principle. Arithmetic is in reality one of the simplest of subjects, and one which if rightly taught can be mastered by all, but for some reason or another it is a subject in which the youth of this country fails most miserably. We are not quite clear where the fault lies but a large part of the weakness can be traced to two sources—the failure to teach that decimals are of far more general use than vulgar fractions, and the neglect of the good old fashioned rule-of-three in favour of the childish step by step or unitary method, which though all very well for simple proportion leads, in more complicated questions, to round about methods which not only take far longer to work but also are far more likely to lead to errors than the correct method. Mr. Ragava Chetty has done well to give prominence to both decimals and proportion. But we fail to find in this book, as we fail to find in most others, any of the contracted methods which one always uses in actual practice. For instance, why have we not got the rules for contracted multiplication and contracted division, by which we can obtain the requisite number of decimal places without writing down a number of unnecessary figures. We wish, too, that the authors of arithmetics would have the boldness to do away with the old method of writing long division sums and would place the divisor on the right hand side with the quotient below it. We are glad to notice the increased attention that is being paid to mental arithmetic. The great secret in teaching arithmetic is to train the youths to work intelligently and not by rule of thumb, and we believe that questions in mental arithmetic judiciously selected do much to sharpen the arithmetical instinct of which most people possess a certain share.

Myam-ma, the home of the Burman, by TSAYA. Calcutta : Thacker Spink and Co. 1886.

The name of the author of this little book, is scarcely concealed by the *nom-de-plume* he has chosen. It is written by a missionary long

resident in Mandalay and bears the marks of a reliable eye-witness throughout. We felt a wish in finishing it that it had been longer, for the author has evidently more to tell us, and he has not the excellent gift of condensation which can crowd in matter without appearing scrappy. The book is interesting, however, and will be read by many whose passing interest might not stand the strain of a longer book.

Following a brief history and description of this beautiful and fertile land there is a sketch of the habits and character of the Burmans. Being blest by nature with a rich and fertile soil, with abundance of vegetable and mineral produce, the inhabitants are happy, their cattle are in good condition, and their lives are spent in an easy-going, good natured, indolent fashion. Procrastination is a busy thief among the Burmans. It is the creed of his daily life. He abominates hurry. Part of their proverbial idleness arises from the sense of race superiority which they have. As a rule they will not perform menial service and their carriage is distinctly independent. The most part is laziness which is bred in the bone of a Burman. He is always impatient of steady disciplined effort. This has made an organised Burman army an impossibility.

He is given to hospitality, free to converse, fond of games, especially of the drama. Pioés are a national institution.

A traveller from India will be struck by several marked points of difference. There is absolutely no caste. Poverty is absent. Beggars are rare. The women are not prisoned in Zenanas but allowed to go about freely. They are pretty, vivacious, and able to take care of themselves. Infant-marriage is not with them a social question, for the young ladies settle it themselves.

The wife is the worker, treasurer, and trainer of the home. Here is a case of administration of discipline. The youthful delinquent is put through a course of treatment almost as systematic as a course of medicine. The mother ties up the culprit to a tree and allows him a little time to reflect on his misdemeanour while she busies herself with household duties. Then taking the rod she administers a large dose of birching to the unfortunate offender who duly yells and screams. The mother then leaves him and resumes her work. After some time she again applies the rod of correction, and then a longer pause ensues for further meditation. When tired of the operation and the accompanying cries of her youthful offspring, she desists and reads him a lecture at intervals and the tender youth is released. By occasional application of such wholesome medicine the sons are trained, under the mother's hand, to duty and obedience.

In the chapter on Religion a short summary of Buddha's laws and teaching is given. Existing castes are denounced. The only distinction is between good and evil. The only respect to be paid is to virtue. The rules of a devout life are—to believe in the Buddha, to renounce lust and

all evil, to give up doubts, to dispel hatred and cherish only love to all men, to avoid folly, and lastly seek the Nirvana. As vapour is absorbed into the sun so is the life of man into the Supreme Intelligence, though that is not a god for it is not personal.

The now well-known begging rounds of the yellow-robed Phoongyees receive due attention. Buddha's instruction as to their dress was that they should be clothed in rags. It is now fulfilled (?) by sewing together numberless strips of new cloth.

A Burman makes more count of merit than of riches. It is the ladder that reaches to Nirvana. The hills round Mandalay are crowded with white and glittering proofs that, at least in the matter of building págodas, the Burmans are a somewhat religious people.

An interesting description is given of an interview with the old king, the Mindoon Min. He appears to have been worthy of his throne. He was kind and his views were large. Under his rule trade was opened up and civilization increased. His disposition to England was friendly.

"For king Theebaw, I have nothing to say. Having known him when he was a boy, he then gave great promise, was bright and intelligent and was kept with more care and had more lavish favour bestowed upon him than the other royal princes." Time will prove whether this young monarch, now scarcely thirty years of age, is the cruel ruffian that he is generally represented, or whether he is a weak and timid ruler who has been made the tool of evil disposed advisers.

The royal city of Mandalay has a chapter devoted to it. It may interest our readers to know that at the foundation of the city fifty-two persons were buried alive, four under each of the gates and four at each corner of the palace enclosure. With each body was placed a jar full of oil carefully protected from any accident. As long as these were intact the city was safe, but in 1881, two of the jars under one gate were found to have quite leaked away; a third was half gone and one only was full. We may venture to hope that Burmah will at some future time rejoice that this dismal prophecy has been fulfilled. The village officer in Burmah corresponding to the Munsif has the significant title of "town eater." The days of her town eating rulers have gone and in good time the British rule will doubtless confer on her new dependency the blessings of order, knowledge, and religious truth that India now enjoys.

NOTES AND EXTRACTS.

Our readers will regret to learn that Mr. Alexander has felt himself compelled by continued ill-health to sever his connection with the College. The accounts of him have indeed been somewhat more

favourable of late. His medical advisers now encourage him to expect complete restoration to health as the result of prolonged rest. They refuse, however, to hold out any hope of his being again fit to bear the strain of hard work in a tropical climate. In these circumstances Mr. Alexander, with characteristic disregard of self, thinks himself bound to send in his resignation in order that his place may be supplied as soon as possible. It is hardly necessary to add that it is with sorrow and reluctance that the resignation has been accepted. Few have gained the affection and esteem alike of his colleagues and of his students so completely as Mr. Alexander did during his seven years of labour in Madras. An able and a ready writer, this Magazine was greatly indebted to him in its early days, and we trust that though far separated from us he will still from time to time help us with his pen.

The vacancy in the Staff of the College caused by the resignation of Mr. Alexander has been filled by the appointment of the Rev. A. S. Laidlaw, M. A., and B. D. Mr. Laidlaw studied at the University of Glasgow, where he took his degree some four or five years ago with the highest honours in philosophy. Information has not yet been received as to the exact date when Mr. Laidlaw will reach Madras; but he may be looked for before next session is very far advanced.

Our readers will nearly all have heard, before this meets their eyes, of the lamented death of Rai Bahadur T. Gopaul Rao, Professor of History in the Presidency College and formerly acting Principal of the College at Kumbhakonam. We wish only to join with others in expressing deep regret at the too early removal from our midst of one who held most deservedly so high a place in the esteem of the community at large, and of those members of it in particular who watch with interest the process by which the India that is to be is emerging from the India that has been. There is no disparagement to many well-known names when we say that few of the educated sons of Southern India held so high a place in the regard of Native and European equally, and that fewer still have done so much to mould the generations that are to come, as he who has now passed away. Engrossed in the work he had to do, unobtrusive and unambitious, Mr. Gopaul Rao has yet had an influence both healthier and more enduring than that of many whose names have been far more widely sounded. As an Examiner and Fellow of the University, as an Inspector of Schools, most of all as a teacher, he set himself to do thoroughly—to do as well as it admitted of being done—the work which his hands had found. For the rewards which sometimes follow, and which ought to follow successful work, he cared comparatively little. To him the question of fulfilling duty was always the paramount one; and in decid-

ing on the way of fulfilling it he thought for himself and judged for himself. He was little swayed by popular prejudice or party cries. When convinced that the course he had chosen was the right one, it mattered little to him whether popularity or unpopularity was its immediate outcome to himself. Few things are more urgently required at present than that in these respects—not to speak of others,—his example should be followed by the educated men of Southern India.

Some among those to whom Mr. Gopaul Rao's memory is dear will be disposed, unless we are mistaken, to regret that talents so great and a character so high never raised their possessor to loftier position in the world and never gained him more widespread fame. In this regret we can hardly share. It is the quietly-flowing stream that does most to fertilize the valley which it waters. If even a few of the many hundreds whom he helped to train exhibit in coming years that earnestness in duty, that superiority to petty aims, that determination to have every question thought out and decided on its proper grounds which characterised their departed teacher, his life will have been more truly useful, and deserving therefore of higher honour, than the lives of many whose names have been bruited abroad more widely. We are glad to learn that steps are being taken to perpetuate the memory of Mr. Gopaul Rao in the town where most of his active life was spent. This is well; but a still better and more lasting monument will be erected in his honour if those whom he taught and trained will guide their own lives by the moral principles which animated his, and by so doing bring those principles to bear with living power on those whom they will influence in turn.

SCIENCE JOTTINGS.

Readers of Smiles' "Life of a Scotch Naturalist" will learn with regret of the death of Thomas Edward the hero of that volume. Edward was born in 1814 at Gosport, Portsmouth, where his father, a private in the Fifeshire Militia, was stationed when the greater part of the regular army had been sent to meet Napoleon's armies. His father who was a hand-loom weaver settled, when the militia was disbanded first at Kettle and then in Aberdeen where young Edward was brought up. From his earliest years he was difficult to manage, and his first leanings towards Natural History were shown when he was only a few months old by his eager attempts to catch the flies on the windows When he got a little older he roamed about the Inches and brought home with him tadpoles, beetles, snails, sticklebacks, rats, mice and all sorts of "venomous beasts," as the neighbours called them, much to the disgust of all about him. He was expostulated with and even

flogged, but all to no effect; his collections were thrown out of the house only to be renewed as soon as he could get away for another hunt. The trouble he gave his parents was extraodinary; they tried all sorts of plans to keep him from wandering, even tying him up and taking away his clothes, but it was of no use, he always managed to escape and go after the "beasties." When between four and five years old he was sent to school but it was the old story, he was always playing truant or else turning up at school with some of his finds; till finally he took a jackdaw with him one day and got turned out at the door by the school-mistress, who could not put up with him any longer. It was much the same at his next school from which he was expelled for bringing a bottle of horse leeches which escaped during school hours and attacked some of the scholars. At his next school he had a master who seemed to know how to manage him better and he behaved fairly well till he was expelled on a false accusation and after a savage flogging. This ended his school days, and soon after he began to work first at a tobacco spinner's and afterwards in a wool mill. After two years in the factory—a time which Edward looked back on with great pleasure—he was apprenticed to a shoemaker. Unfortunately his master was a drunken brute and Edward had finally to leave. Soon after he ran away from home and went to his uncle at Kettle but came back again in a few days, walking the whole way there and back. After this he returned, under another master, to shoemaking at which he continued to work with a few intermissions till Smiles by writing his life brought him before the public, when he was appointed curator of the Banff Museum. When twenty-three years old he married and settled in Banff though his earnings were only 9s. 6d. a week; yet he managed, chiefly at night, to find time for his favourite pursuits and began to make a collection of Natural History objects. We cannot follow the details of his life at this time but must confine ourselves to a few of the leading incidents. He had many disappointments. His first collection of 916 insects was completely destroyed by rats or mice, but this only set him to collect again more vigorously than before. At another time he lost a collection of 2,000 dried plants, the result of eight years' labour. Twice he exhibited his collections in Banff with fair success, and this induced him to try an exhibition in Aberdeen. This ended in a sad failure, and Edward had to sell the whole collection for £20-10s. to pay his expenses. Almost in despair, at first, he returned to Banff but soon began collecting again. Through the kindly interest taken in him by a minister in the neighbourhood he was induced to communicate some of his observations to the local papers. The same gentleman lent him books on Natural History and after a time got his notes inserted in the *Zoologist* which led to further correspondence with naturalists and to the insertion of his notes in other Natural History Publications. In 1866 Edward was elected an

Associate of the Linnean Society, and various other Natural History Societies soon followed this example. All the time he was hard pressed for the bare means of keeping himself and his family, and his life is a wonderful illustration of what a man with a strong natural bent for a particular subject will endure for the sake of his favourite study. The prominence brought him by the writing of his biography led to steps being taken to do something for him. A sum of £333 was publicly presented to him in Aberdeen, and he was awarded a Queen's pension of £50 a year. Naturally of a very strong constitution he suffered considerably from the effects of constant exposure when in pursuit of animals at night, and from several severe accidents with which he met. He died on April 27th after a long illness.

In the Bakerian Lecture to which we have already referred* Dr. Huggins after giving an account of recent observations proceeds to discuss the probable nature of the corona. The theory, based by Professor Hastings on some observations made in 1883 on the Caroline Islands, that the corona does not belong to the sun at all but is simply a diffraction phenomenon, he dismisses at once, by pointing out that Professor Hastings' observations are capable of a much simpler explanation and that the evidence in favour of the corona being a true solar appendage is of overwhelming weight. "It seems difficult," Dr. Huggins says, "on any other hypothesis to explain satisfactorily :—

(1) the observed and the photographed spectra of different parts of the Corona; (2) the visibility of the planets Venus and Mercury as dark bodies when near the sun; (3) the filamentous, and especially the peculiar curved structures seen in photographs of the corona; (4) the close agreement of photographs taken at different times during an eclipse, and especially between photographs taken during the same eclipse at places many hundred miles apart."

That the corona can be a true solar atmosphere in the sense of its being a continuous mass of gas held up by its own elasticity seems impossible, for such an atmosphere even if it were of a gas thousands of times lighter than hydrogen and at a very high temperature would have more than metallic density at the sun's surface—a state of affairs which the spectroscope shows cannot exist. Again, though shooting stars passing through the earth's highly rarified atmosphere at a height of 40 or 50 miles at a rate of only 30 or 40 miles a second are instantly burned up, yet comets travelling at a rate of 300 miles a second have passed through the corona without suffering any sensible decrease in velocity. The three questions then have to be solved regarding the corona,

* Vol. III. pp. 794-5.

"(1) In what form does the matter exist? (2) Whence does it come? (3) What are the dynamical conditions under which it can exist at such great heights above the sun?" Spectrum analysis shows us that we have in the corona incandescent solid or liquid matter (which both gives out light of its own and reflects sunlight) and incandescent gas. "It is hardly necessary to say" adds Huggins, "that solid or liquid matter can exist in the corona only in the form of discrete particles of extreme minuteness." In fact the particles must be so few and far between that probably one particle in the cubic mile would account for the whole effect.

As regards the second question Dr. Huggins considers that the weight of authority is in favour of a solar origin. The coronal gas for instance consists of a substance found also in the photosphere and found, with certainty, nowhere else, and the whole structure of the corona is much more in harmony with the view that the matter is moving from the sun than towards the sun. The idea that the corona is due to meteor streams flowing into the sun is certainly not supported by observation.

The last question as to the dynamical conditions of the matter of the corona is a very difficult one. The only other natural phenomenon which is due to matter in anything like the same state of rarity is the tail of a comet, in which we have matter of excessive tenuity repelled from the sun much as the matter of the corona seems to be. The opinion is now gaining ground that comets' tails are caused by electrical repulsion between the sun and matter given off from the comet's head by the intense heat of the sun. The sun then must be highly electrified and being so would of course act on any light matter near its surface similarly electrified, just as it acts on the matter forming the tails of comets, and thus produce all the phenomena of the corona so far as they are due to the solid particles of which we have spoken. If we accept this theory it becomes easy to explain many of the characteristics of the corona for which we cannot otherwise account, such as the apparent action upon it of the nearer planets and the great variations both in form and size which have been observed.

A further question which is not without interest is, what becomes of the coronal particles? A close study of the photographs and drawings of the corona leads to the conclusion that some return to the sun while others never do. Dr. Siemens, it will be remembered, was led by the appearance of inflowing and outflowing rays to his hypothesis of an equatorial outflow and a polar inflow due to centrifugal action, but this theory we believe has been now given up. According to the electrical theory any particles which parted with their electricity or became charged with electricity of the opposite kind would in most cases return to the sun,

while those which retained their charge would continue to move outwards and may produce the zodiacal light.

Dr. Huggins in conclusion points out that his views of the nature of the corona lead to the belief that it must have been more brilliant in remote ages and that it may even have been faintly visible in the earliest ages of the human race and he asks " are there any philological traces of it in the earliest words and ideas connected with the sun ?" " The candle of the sun is burning down, and so far as we can see, must at last reach the socket. Then will begin a total eclipse which will have no end :

'Dies illa
Solvet seclum in favilla,"

The following table shows the mean Meteorological conditions of several stations in different parts of India for the month of June.

Station.	At 10 A. M.			Resultant wind direction of the month and percentage of prevalence.	Wind velocity of the month. Miles per hour.	Rainfall of the month. Inches.
	Barometer. Inches.	Thermometer. F°	Humidity. Percentage of Saturation.			
Delhi	29·533	96·2	45	24 N. 60° W.	5·1	3·12
Allahabad	.557	94·6	51	12 N. 2° E.	3·4	4·39
Silchar	·696	83·5	83	9 N. 58° E.	3·1	18·87
Darjeeling	22·895	62·2	93	9 N. 52° E.	3·9	25·08
Dacca	29·633	85·6	83	75 S. 16° E.	7·4	13·21
Calcutta	·608	86·5	77	59 S. 4° E.	6·0	10·21
Nagpore	·641	90.0	53	52 N. 76° W.	7·2	8·86
Indore	·662	85·5	58	75 S. 87° W.	7·4	6·47
Jeypore	·573	94·9	47	50 N. 64° W.	7·9	3·39
Kurrachee	·607	89·6	67	79 S. 81° W.	19·0	0·20
Bombay	·749	84·9	79	68 S. 57° W.	16·4	20·69
Poona	·755	82·3	63	73 S. 79° W.	16·6	5·77
Belgaum	·823	76·2	74	86 S. 73° W.	7·5	9·38
Secunderabad ...	·754	85·0	53	85 S. 79° W.	12·2	3·60
Vizagapatam ...	·669	88·2	66	63 S. 58° W.	4·0	4·56
Bellary	·778	86·0	54	84 W.	10·4	1·69
Madras	·768	91·2	49	58 S. 36° W.	9·1	2·00
Salem	·853	86·0	63	82 S. 62° W.	5·3	3·08
Wellington	24·197	68·1	67	56 N. 79° W.	?	3·48
Coimbatore	29·849	82·2	64	82 S. 41° W.	8·0	1·74
Trichinopoly	·830	90·3	50	84 N. 88° W.	9·6	1·29
Negapatam	·804	89·9	51	90 S. 45° W.	7·8	1·13
Cochin	·912	80·9	84	50 S. 72° W.	2·1	30·51
Mercara	·864	67·8	92	95 N. 83° W.	10·4	25·92
Bangalore	·826	76·8	68	90 S. 71° W.	8·4	3·17
Colombo	·904	82·5	81	85 S. 73° W.	9·9	7·51
Rangoon	·817	81·8	87	73 S. 11° W.	5·6	18·35

Note.—The barometer readings are reduced to 32° F. and, except for Darjeeling and Wellington, are all reduced to sea level.

Mr. Thomas Wardle the well known specialist has recently been in India examining into the question of the cultivation of the silkworm (*Bombyx mori*) and the methods of reeling silk. He finds that the fibre of

the Indian silk is quite as good as that of the Italian, and that improved methods of preparation are all that are required to restore the industry to its former prominence. The fibre, however, is very much shorter than the Italian, the Indian worm spinning only 150 metres while the Italian spins 650 metres. This inferiority can probably be removed by careful breeding from selected seed, while the great loss of grubs caused by the hot winds can be overcome by using mud huts instead of mat ones for breeding purposes

C. M. S.

RECENT PERIODICAL LITERATURE.

The magazines this month are nearly all deluged with political articles on the great Irish questions of the day of which we cannot take any notice here. In *Blackwood* we have the conclusion of "Zit and Xoe" but we cannot say that it by any means equals the opening part. Lawrence Oliphant continues his papers "Moss from a rolling stone" and tells of his first journey to the East in 1841-42. He came by the overland route, but in these days that did not mean a three weeks run from London to Bombay, for it took him two full months to reach Ceylon. The first part of the journey to Boulogne, was made in a steamer starting from London Bridge. The journey across France from Boulogne to Marseilles took eight days and five nights of continuous travel, which included the by no means comfortable incident of being snowed up for four hours in the middle of the night near Chalons.

From Marseilles to Malta the mails were carried in a man of war which had also to carry passengers. At Malta another steamer was waiting to carry them on to Alexandria. This town was then a very different place from what it is now but was just "beginning to quiver under the impulse of the movement which the invention of steam was imparting to the world, one of the earliest evidences of which was the direct route to India which Lieutenant Waghorn had just opened through Egypt." From Alexandria they went in boats along the Mahamoudieh canal as far as Atfeh and thence to Cairo by the first steamer that had been put on the Nile. It took them three days to go from Alexandria to Cairo where they found Mr. Waghorn himself looking after the arrangements for the transit to Suez. The desert was crossed in four horse vans and on arrival at Suez they joined the Steamer *India* which was the first merchant steamer which carried passengers and mails direct from Suez to Calcutta and which was then on its first voyage. The charts of the Red Sea were not so perfect then as they are now, and on the second night from Suez the *India* ran on a coral reef, but the sea being perfectly calm was got off again when the tide rose, and though seriously damaged was able to continue the voyage. The chapter of accidents was not yet complete for in a short time the fuel was exhausted and it was with difficulty that they were able to reach Mocha, where they were able to obtain a supply of fuel sufficient to carry them on to Aden where the *India* had to be laid up for repairs. Aden had then been in our possession for only two years and was held like a post in an enemy's country. No Arabs were allowed to enter without a pass and none were allowed to pass the night within the gates. The rest of the voyage to Ceylon was without any special incident but so slow was the rate of progress that the Island was not reached till sixty days after leaving England. In Ceylon Mr. Oliphant ascended Adam's Peak on which he has a very interesting chapter. The ascent in these days seems to have been much more diffi-

cult than it is now and at one place he had a very narrow escape, having actually fallen over a precipice and being saved by getting caught in the branches of a bush growing on a projecting rock. At another part an overhanging rock had to be ascended by an iron ladder, a not very pleasant thing for one whose nerves had been so badly shaken a short time before by a dangerous fall. On the top of the hill he found a single hut used by the Buddhist who was guardian of the sacred footprint, but as this was anything but scrupulously clean Mr. Oliphant and his friend preferred to spend the night in the open air. The description of the view by moonlight and of its change as the sun rose is worth quoting :—

"When I awoke to look about me, by the light of a moon a little past the full, in the early morning, I looked down from this isolated summit upon a sea of mist which stretched to the horizon in all directions, completely concealing the landscape beneath me. Its white, compact, smooth surface almost gave it the appearance of a field of snow, across which, in a deep black shadow, extended the conical form of the mountain I was on, its apex just touching the horizon and producing a scenic effect as unique as it was imposing. While I was watching it, the sharpness of its outline gradually began to fade, the black shadow became by degrees less black, the white mist more green, and as the dawn slowly broke, the whole effect was changed as by the wand of a magician. Another conical shadow crept over the vast expanse on the opposite side of the mountain, which in its turn reached to the horizon, as the sun gently rose over the tremulous mist; but the sun-shadow seemed to lack the cold mystery of the moon-shadow it had driven away, and scarcely gave one time to appreciate its own marvellous effects before the mist itself began slowly to rise, and to envelop us as in a winding-sheet. For half an hour or more we were in the clouds, and could see nothing; then suddenly they rolled away, and revealed the magnificent panorama which had been the object of our pilgrimage."

The Fortnightly Review follows up its article on Lloyds with one on Ocean Steamers, which, if a little too statistical yet gives an interesting account of the rapid progress made in steam navigation since the little *Comet* was launched in the Clyde in 1812. The *Comet* was the first ship in Britain in which steam was made practical use of for trade purposes: it was only 42 feet long 11 feet broad and 5 feet deep, but her designer, Mr. Wood, lived to model the first of the Cunard fleet, which now has vessels over 500 feet long, 57 feet broad, 38 feet deep and of a gross tonnage of nearly 8,000 tons. The *Comet* attained a speed of six miles an hour and this was soon exceeded by the *Clyde*, the *Elizabeth*, and the *Glasgow* which were able to go nine miles an hour. In 1815 the *Marjory*, 63 feet long, was sent round to the Thames where as the first steam vessel that had been seen it created a great sensation. In 1818 the *Rob Roy* crossed the Irish channel, and by 1822 the British steam fleet had increased to close on sixty boats. In 1819 the *Savannah* using steam as an auxiliary crossed from Quebec to England, and in 1825 the *Enterprise* of 500 tons and 120 horse-power made the passage round the Cape of Good-Hope to India. The oldest steam packet Company in existence is the P. & O. Company which in 1837, as the Peninsular Company, entered into a Government contract to carry mails from Falmouth to Lisbon, Gibraltar, and other Peninsular ports. The first steam vessel belonging to this Company was the *William Fawcett* of 206 tons and 60 horse-power—a contrast to the present vessels such as the *Rome* of 5013 tons and 5000 horse-power.

"From this insignificant little ship the fleet has steadily grown till it now comprises fifty-two magnificent screw steamers, measuring 181,694 tons, all of which have been built during the last ten years, thirteen of them constructed of steel the rest of iron. In 1840 the Company's tender for a mail service to India and China was accepted under a Royal charter of incorporation; and on the 24th of September, 1842, the *Hindostan*, as the pioneer of the Oriental squadron of the fleet sailed from Southampton. The mail contracts now extend to India, China, Japan, and Australia; and in the performance of the service, the vessels—which placed bow and stern would extend to four miles, and give employment ashore and afloat to 10,000 men—steamed last year 234,000 nautical miles, or as much as one hundred and eight times round the world."

The P. & O. has been compelled by

strong competition to maintain a fleet of steamers second to none engaged in the Eastern trade, and at the present time some of its rivals push it very hard. This is specially the case in the Australian trade on which the Orient line has some magnificent vessels such as the *Orient* of 5,386 tons, which reduced the time taken in the voyage from London to Melbourne from 40 to 30 days, and the *Austral* of 5,600 tons and 6000 horse-power, which made 17 knots an hour on her trial trip. On the Indian lines we have the British India with a large fleet of fine boats, the Clan line, which seems every day to be growing in favour, and many others. Probably the most interesting chapter in the history of steam boats is that which tells of the extraordinary rivalry which exists among the companies carrying passengers from Great Britain to America, a rivalry which has made this service the fastest and most comfortable in the world. Let us glance at what Mr. Dykes has to say upon this. We have seen that the *Savannah* using steam as an auxiliary crossed the Atlantic so far back as 1819. In 1831 the *Royal William* crossed from Quebec in twenty-five days relying chiefly on steam, but the real opening of steam communication between the two countries is generally considered to date from 1838, when the *Sirius* a vessel of 450 tons, and 178 feet in length crossed from Cork to New York in seventeen days. She was passed on the voyage by the *Great Western* which sailed from Bristol three days after the *Sirius* had started and reached New York in fifteen days. The Cunard line was established in 1840, their first vessel being the *Britannia* 207 feet long, 34 feet broad, and 22 feet deep, while the latest additions to this fleet, the *Umbria and Etruria* are each 501 feet 6 inches long, 57 feet broad, and 38 feet deep. These early vessels were all paddle boats but in 1843 the *Great Britain*, fitted with a screw propeller sixteen feet in diameter, made the voyage from Liverpool to New York in 15 days, or at an average speed of 9¼ knots an hour. The paddle remained for many years the favourite method of propulsion but was gradually replaced by the screw. So long as wooden ships were used American competition was very strong, but when, between 1850 and 1860, wood gave place to iron the American builders were at once left far behind. In 1856 the time of passage had been reduced to ten and a half days and in 1877 the White Star Steamer *Britannic* performed the voyage in 7 days 10 hours 53 minutes, and last year the *Etruria* crossed from Queenstown to Sandy Hook in 6 days 5 hours 31 minutes. This speed can of course be obtained only by a very large consumption of coal and we find that the *Etruria* burns 300 tons of South Wales Coal per day. Of the future prospects Mr. Dykes writes :—

"In regard to the Ocean Steamers of the future, it is confidently anticipated that though they cannot be made much more comfortable than at present, they may be made two or three miles an hour faster; and Mr. Pearce, M. P., who is Chairman of the Guion line, has declared that the day is not far distant when the Atlantic will be crossed in four days, without in any way sacrificing safety to speed. Further improvements, like triple expansion engines and forced draught, will allow of a heavier application of fuel and increased horse-power, and with every vessel its own lifeboat through effective water-tight compartments and powerful pumps, such as those carried on the *Hawarden Castle*, equal to throwing out forty to fifty tons of water per minute, Ocean travelling will be rendered more speedy and less dangerous than it is at present, when if the full traffic is considered, a man's life is much safer on a well-appointed steamer than in a railway train."

In the *Nineteenth Century* Mr. R. A. Proctor has an article on "Whence came the comets?" which though not containing anything absolutely new will probably be found novel by most of his readers. He begins with the following three propositions which will be generally admitted :—

"(1) Every meteoric stream follows in the train of some comet large or small, which either exists now or has been dissipated, as Biela's comet was, leaving only its meteoric trail to show where it once travelled.

(2) Every comet is followed or preceded by a train of meteors (this train has nothing to do with the comet's tail), extending over a greater or less portion of the comet's orbit, according to the length of time during which the comet has existed.

(3) All meteoric bodies, from those which exist as the finest dust to the largest meteorites, hundreds of pounds in weight, may be regarded as bodies of the same kind, differing from each other indeed in constitution as they obviously do in mass, just as planets and asteroids do, but all to be interpreted—if they can be interpreted at all—in the same general way."

Schiaparelli to whom we owe so much in connection with comets and meteors, suggested that comets regarded as flights of meteors might be travelling in multitudes through interstellar space, and be drawn out thence from time to time by the attraction of the sun, which as it moved through space came ever on fresh supplies. Now the action of the sun alone could not draw a comet permanently within the solar system, but if the action of the sun were combined with that of one of the larger planets near which the comet passed, the result might be the permanent addition of the comet to our system. Proctor, however, has shown mathematically that, while this is true of a single body approaching very close to one of the large planets, it is not possible that a whole meteor stream of any considerable size could be thus captured, and hence that this idea of Schiaparelli's will not account for our meteor streams. Of course, an answer to this might be found in the suggestion which naturally springs from study of the history of Biela's comet, that the meteor stream reached our system as a comet which was afterwards broken up into the meteor stream. But even if we admit Schiaparelli's suggestion we are no nearer the solution of the question Whence came the comets? When we consider the larger number of meteor streams now recognized with orbits which cross or approach very near to the earth's orbit, we are forced to admit the high improbability of the supposition that all these were due to comets drawn in from space and crossing the earth's orbit casually. Hence Meumer and Tschermak were driven to look to the earth itself for the origin of meteors. The only way of explaining the terrestrial origin of meteors is by volcanic eruptions, and we know that in no volcanic eruptions of the present day—not even in one like that of Krakatoa—are masses ejected with velocities anything like sufficient to carry them permanently away from the earth, but it is at least conceivable that in the early days of the earth's history, volcanic eruptions were so much more violent that some of the ejecta received the necessary velocity of from ten to twelve miles a second. Granting that this is possible, bodies thus ejected would not leave the solar system but would travel round the sun in orbits crossing the earth's track near the place where they first started. When we examine the chemical composition of the meteors which fall to the earth we certainly find no conclusive evidence against this hypothesis. No previously unknown element has ever been discovered in a meteor, while on the other hand bodies now admitted to be of volcanic origin were at one time supposed to be typical, though very large meteorites. Accepting this Mr. Proctor says:—

"Regarding a large proportion of the material visitants of the earth as originally earth born, we may conclude that in the remote time when our earth was a baby world sunlike in condition her path was traversed by hundreds of comets, her own progeny. These comets were followed severally by their trains of meteoric attendants. They were exposed to the action of those solar forces by which, within the last half century, a once promising member of another comet family became dissipated until it finally lost altogether its cometic character. Millions of years ago, probably, every one of them had been thus broken up until nothing remained but the streams of meteoric bodies, travelling round the orbit which had once been that of the earth-ejected comet."

Of course, if this is true of the earth, it must be true of the other planets and of the stars, and the hypothesis is certainly strengthened by the circumstance that even before this hypothesis had been suggested Proctor had himself grouped the comets into families connected with the several great planets. Direct evidence of the possibility of the existence of eruptive forces such as are required can hardly be expected, but the spectroscope has taught us that even at the present day matter is ejected from the sun with such velocity that it can probably never return to it again. The con-

clusion then to which Proctor comes is, that the answer to the question "Whence came the comets should be:—

(1) Comets which visit our system from without were expelled millions of years ago from the interior of suns.

(2) Comets which belong to our system were mostly expelled from the interior of a giant planet in the sunlike state, but a small proportion may have been captured from without.

(3) The comets of whose past existence meteor streams tell us were for the most part expelled from our earth herself when she was in the sunlike state, but some of the more important were expelled from the giant planets and a few may have been expelled from suns."

Mr. John Slagg, writes on a subject which ought to interest many of our readers—the "National Indian" Congress, held at Bombay in December last. Mr. Slagg does not hold a position such as to make his views of much importance; but to all who watch the signs of the times, it is interesting to see what any tolerably competent observer from outside thinks of the movements now commencing among the educated portion of the Indian community. The writer approves of the resolution of the Congress recommending "that the impending inquiry into the condition of India should be entrusted to a Royal Commission, the people of India being adequately represented thereon, and evidence taken both in India and in England," and regrets that there is so little probability of this recommendation being fully acted on. In this point few who know anything of India are likely to differ from the Congress or Mr. Slagg. Either there should be no inquiry, or the inquiry should be as complete and full as circumstances allow; and this it cannot possibly be unless evidence is taken in India itself. Mr. Slagg agrees with the Congress in desiring the abolition of the Council of the Secretary of State for India, and maintains that "its extreme unpopularity in India with all classes,—officials, unofficial Europeans, and the people—is notorious." He further supports the recommendation of the Congress that "the Supreme and Provincial Councils should be rendered largely representative," and quotes with approval the suggestion of Mr. Banerjee that the constituencies should "consist of the local bodies which Lord Ripon's scheme of local self-government has called forth into existence. They will comprise the public bodies, such as the Chambers of Commerce, the Trades Association, and other similar Associations. Let these constituencies send their members to the Legislative Council. With reference to the local bodies, I would suggest that the Municipalities of district towns should each send a member to the Legislative Council, or that all the Municipalities of a district in conference assembled might select a member to represent them in Council. The whole country with all its districts, would be thus represented."

Of the fourth resolution of the Congress, demanding that greater facilities should be granted to the people of India for admission into the "Covenanted Civil Service," Mr. Slagg does not approve, desiring rather that the whole Covenanted Civil Service should be gradually done away with. Certainly those who desire to see a much larger share of the ordinary administration placed as soon as possible in the hands of the children of the soil, should advocate the solution of the difficulty which is proposed by Mr. Slagg rather than the one suggested by the Congress. With the fifth and sixth resolutions of the Congress, bearing on the military expenditure of India and the means of supplying the financial deficiency which it causes, the writer is in complete accord; as he is also with the seventh resolution, in which the Congress deprecated that annexation of Burmah which has now become an accomplished fact.

It is unfortunate, though perhaps it should not be surprising, that outsiders who sympathise, like Mr. Slagg, with the growing political aspirations of educated India should evince so much of the spirit of partizans and special pleaders. For instance, in one part of his discussion of the policy of annexation in Burmah, Mr. Slagg tells us that one of the most serious aspects of the dethronement of King Thebaw is "the distrust and apprehension which this open violation of the policy solemnly proclaimed in the Royal Proclamation of 1858 must of necessity engender in the minds of the peoples and the

feudatories of India." As another argument against annexatiou it is stated: "There is no more reason why the people of India should be burdened with the costs and responsibility of maintaining the Province of Burmah than of Ceylon or the Cape of Good Hope. *Burmah is not a part of India.*" One or other of two such arguments is manifestly fallacious. If "Burmah is not a part of India," then the Proclamation of 1858, which referred to the Princes of India alone, can have no bearing one way or other on the question of whether Burmah should be annexed or not. A good deal of Mr. Slagg's reasoning does not stand logical examination much better than this part does. Still we are glad that public attention in Europe is being drawn to the ideas and aspirations that are beginning to awaken throughout the Indian Empire;—ideas and aspirations which it is still easily within the power of sympathetic statesmanship to direct and control, but which it is now as impossible as it is undesirable to stifle.

Lovers of the wonderful will have their appetites whetted by an article on "Mr. Donelly's Shakespeare Cipher." The writer is Mr. Percy M. Wallace. Most students of Shakespeare have heard that there are some—mostly Americans,—who hold that the plays which have passed under Shakespear's name so long were really composed by Lord Bacon. To plain-going people even this is marvellous enough. But it is quite eclipsed by the further discovery which one of these "Baconians" now professes to have made. "Mr. Ignatius Donelly, of Hastings, Minnesota, ex-member of Congress," is about to publish a book in which he means to prove "that he has discovered, running through the Plays, a cipher narrative in which Bacon claims their authorship, giving also a detailed account of a considerable portion of his own life of the Court history during the period of his rise and greatness." The article does not describe the theory at length. The process by which the great discovery was made is not to be fully revealed till the book is published. Mr. Donelly fears that premature disclosure may enable some literary pirate to secure the honour which he considers that his own ingenuity and industry have so abundantly deserved. A vague outline of the principles on which the discoverer has worked is, however, supplied. Mr. Donelly's main idea is, that the irregularity in the use of hyphens, of capital letters, and of brackets, which characterises the First Folio edition of the plays, is not due to mere typographical blundering, as has been hitherto supposed, but was deliberately introduced by Lord Bacon, (by whom the proofs must have been most carefully corrected), with a view to disclose the true authorship when any one had wit enough to solve his riddle. When Mr. Donelly's volume sees the light it will be entertaining if not convincing, and will furnish a capital field for the ingenuity of such as take delight in either upholding or exposing paradoxes.

In the current number of the *Contemporary Review* Professor Dowden has an interesting article on "The Interpretation of Literature." He has been moved to write this by the recent discussion of the question, "What hundred books are the best?" In his opinion it would have been far more profitable if some of the eminent persons who took part in that discussion had told us not what, but how we should read. Every great author has his secret, which but few have the power of discovering, and if these "fine interpreters of literature" had but explained to us the method by which they discoved the secrets of their favourite authors we should indeed have learned something worth learning.

Professor Dowden, however, recollects that all people have not the same high opinion of literature as he has, that there are men who impatiently throw a poem aside if they meet with one line which they do not at once understand, and he anticipates an objection:—

"It may be asked, Is not literature itself an interpretation—interpretation of external nature and of the nature of man? Why, then, should we speak of an interpretation of that which itself interprets, an interpretation of an interpretation? And persons who talk in this way are also likely to say that a work of literature—a poem suppose—which does not explain itself is not worth explaining. But literature is more than an interpretation

of external nature and of human life; it is a revelation of the widening possibilities of human life, of finer modes of feeling, dawning hopes, new horizons of thought, a broadening faith and unimagined ideals. Moreover, every great original writer brings into the world an absolutely new thing—his own personality, with its unique mode of envisaging life and nature; and in each of us he creates—a new nerve of feeling, or a new organ of thought, a new conception, or a new thrill of emotion. We sometimes call him by even a higher name than revealer; we call him a maker or creator.

If this is a true account of what literature is, it is at once seen that an interpretation of it may be needed. People are not prepared to receive new ideas, and so do not apprehend them; they do not understand the language in which they are addressed. In course of time however some more thoughtful men who have studied the author's writings and have discovered that they contain not nonsense, but great truths, arise as interpreters, and through their labours the writer is at last understood, and men wonder what it was that prevented their fathers from appreciating his great works.

"A great writer never fails ultimately to become his own interpreter only this may need much time—perhaps the lifetime of a generation of men. And thus it is quite right to say that a poem which does not explain itself is not worth explaining; only we should add that it sometimes needs twenty, thirty, forty years to explain itself to the mass of men, and that for a long period it may be able to explain itself only to a few chosen disciples."

It is in consequence of this inability to grasp new truths that the charge of obscurity is so often hurled at the heads of new poets. The critics "the professional interpreters of literature" as Professor Dowden calls them—are usually just as far wrong as the general public. It is but rarely that the "true prophet" receives from his reviewers that praise which is his due. More commonly he receives abuse. Professor Dowden gives many illustrations of this.

"Wordsworth, Keats, Shelley, Coleridge, Tennyson, Carlyle, Browning, Whitman—each in his day has stood in the stocks and every fool has been free to throw a cabbage-stump or a rotten egg at the convicted culprit . . . . . If we were asked to name a poem of this century the beauty of which now imposes itself inevitably on every reader we might well name Coleridge's 'Christabel.' But to the *Edinburgh* Reviewer Christabel was 'a mixture of raving and drivelling:' and he goes on to suggest that the author of the poem may possibly be under medical treatment for insanity. Only within the last two or three years has the charge of unintelligible obscurity brought against Mr. Browning been silently dropped; and now we are in the most correct fashion if we express surprise that any one should ever have delayed perplexed in the tangle of the most involved period of 'Sordello.' The whirligig of time in the course of half a century has brought in its revenge."

Another accusation which is continually made against authors of a new school is that of immorality. Sometimes there may be some truth in the charge, but frequently the accusation is made because the author revolts against mere conventionalities and the new truth is thought to be dangerous and unsettling. Thus the *Edinburgh* Reviewer discovered immorality in the writings of Southey and Wordsworth, because they found their inspiration in Rousseau and were not satisfied with things as they were:—

"This accusation of immorality, as brought against a great writer, may be wholly false, or it may be true in some respects but false in being advanced absolutely and without qualification. The entire tendency of a writer may be towards righteousness, and he may be reviled as an immoral writer. Or, what more frequently happens, his dominant influence on character may be potent for good but on certain side issues he may be ethically unsound; these are detached from the whole and are represented as central. A writer who brings to his age some new and precious gift, some quickening of moral sensibility, some reinforcement of spiritual faith and spiritual passion, is peculiarly exposed to this reproach."

Professor Dowden then goes on to treat of the way in which one should enter on the study of a great writer, and points out that one should do so in the spirit, not of hero-worship, but of "cheerful and trustful frater-

nity." He shows how "from each single work of the author we advance to his total work and thence to the man himself," and then we attempt to interpret the author's mind itself. As for the end and aim of all our study it "should be to ascertain how a great writer or artist has served the life of man; to ascertain this, to bring home to ourselves as large a portion as may be of the gain wherewith he has enriched human life, and to render access to that store of wisdom, passion, and power easier and surer for others. If our study does not directly or indirectly enrich the life of man, it is but a drawing of vanity with cart ropes, a weariness to the flesh, or at best a busy idleness."

CORRESPONDENCE.

THE ARK.

THE EDITOR,

Christian College Magazine.

SIR,

The writer of the article on "Noah, the Ark, and the Deluge," in the *M. C. C. Magazine* for May, in dealing with the objection urged against the Bible account of the Deluge that Noah's family and the animals in the Ark could not have had sufficient light and ventilation through the "one window." says that there would have been plenty of light and air if it be understood that the word means "a window-course, extending to the breadth of a cubit the whole length of the Ark." Granted, that the window was large enough to let in sufficient light; but what about *ventilation?* The writer goes on to say that the window "was probably covered with some transparent or translucent substance." If this were so, there could then have been no provision for ventilation! It is reasonable to suppose that the window and the door of the Ark were "covered" or *closed* to keep out the rain. I fail to see that this objection has been satisfactorily explained. Further, it does not appear from the inspired narrative that Noah was informed how long he and his live stock would have to remain within the Ark. How then, it may be asked, could he have estimated the amount of provisions that would be necessary for the support of the inmates not only for the time during which the waters remained upon the earth, but also for the time beyond that, during which the earth was recovering from the effects of its submersion before it was rendered capable of producing herbaceous food?

Yours faithfully,

J. S.

[In our opinion J. S. is finding difficulties where none need be found. He is of opinion that those in the Ark would have suffered from want of ventilation, but surely there are a thousand ways in which a roof can be made so as to keep out rain and yet admit of ample ventilation. Besides, we fancy, in the days of Noah carpentry had not reached a stage of perfection such as to bring the question of ventilators prominently forward. As regards the second point, even if we adopt the most literal interpretation of the narrative, surely it is hypercriticism to say that because we are not informed that God told Noah how much food to take with him into the Ark he was left entirely in the dark as to this important point. For our own part we look on the Deluge as having been far more local than Mr. Knowles, relying on the Duke of Argyle's arguments, is prepared to admit; for the geological phenomena to which the Duke refers can be far more easily explained in other more probable ways.—ED. *M. C. C. Magazine.*]

NOTICE TO CORRESPONDENT.—J. Gaurunadha Sastri; your letter is unavoidably held over till next month. ED. *M. C. C. Magazine.*